

B^\pm

$$I(J^P) = \frac{1}{2}(0^-)$$

Quantum numbers not measured. Values shown are quark-model predictions.

See also the B^\pm/B^0 ADMIXTURE and $B^\pm/B_s^0/B_s^0/b$ -baryon ADMIXTURE sections.

B^\pm MASS

The fit uses m_{B^\pm} , $(m_{B^0} - m_{B^\pm})$, and m_{B^0} to determine m_{B^\pm} , m_{B^0} , and the mass difference.

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
5279.13±0.31 OUR FIT				
5279.1 ±0.4 OUR AVERAGE				
5279.10±0.41±0.36		¹ ACOSTA 06	CDF	$p\bar{p}$ at 1.96 TeV
5279.1 ±0.4 ±0.4	526	² CSORNA 00	CLE2	$e^+ e^- \rightarrow \gamma(4S)$
5279.1 ±1.7 ±1.4	147	ABE 96B	CDF	$p\bar{p}$ at 1.8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
5278.8 ±0.54±2.0	362	ALAM 94	CLE2	$e^+ e^- \rightarrow \gamma(4S)$
5278.3 ±0.4 ±2.0		BORTOLETTO92	CLEO	$e^+ e^- \rightarrow \gamma(4S)$
5280.5 ±1.0 ±2.0		³ ALBRECHT 90J	ARG	$e^+ e^- \rightarrow \gamma(4S)$
5275.8 ±1.3 ±3.0	32	ALBRECHT 87C	ARG	$e^+ e^- \rightarrow \gamma(4S)$
5278.2 ±1.8 ±3.0	12	⁴ ALBRECHT 87D	ARG	$e^+ e^- \rightarrow \gamma(4S)$
5278.6 ±0.8 ±2.0		BEBEK 87	CLEO	$e^+ e^- \rightarrow \gamma(4S)$

¹ Uses exclusively reconstructed final states containing a $J/\psi \rightarrow \mu^+ \mu^-$ decays.

² CSORNA 00 uses fully reconstructed 526 $B^+ \rightarrow J/\psi(') K^+$ events and invariant masses without beam constraint.

³ ALBRECHT 90J assumes 10580 for $\gamma(4S)$ mass. Supersedes ALBRECHT 87C and ALBRECHT 87D.

⁴ Found using fully reconstructed decays with $J/\psi(1S)$. ALBRECHT 87D assume $m_{\gamma(4S)} = 10577$ MeV.

B^\pm MEAN LIFE

See $B^\pm/B_s^0/b$ -baryon ADMIXTURE section for data on B -hadron mean life averaged over species of bottom particles.

“OUR EVALUATION” is an average using rescaled values of the data listed below. The average and rescaling were performed by the Heavy Flavor Averaging Group (HFAG) and are described at <http://www.slac.stanford.edu/xorg/hfag/>. The averaging/rescaling procedure takes into account correlations between the measurements and asymmetric lifetime errors.

VALUE (10^{-12} s)	EVTS	DOCUMENT ID	TECN	COMMENT
1.638±0.011 OUR EVALUATION				
1.635±0.011±0.011	⁵ ABE 05B	BELL	$e^+ e^- \rightarrow \gamma(4S)$	
1.624±0.014±0.018	⁶ ABDALLAH 04E	DLPH	$e^+ e^- \rightarrow Z$	
1.636±0.058±0.025	⁷ ACOSTA 02C	CDF	$p\bar{p}$ at 1.8 TeV	
1.673±0.032±0.023	⁸ AUBERT 01F	BABR	$e^+ e^- \rightarrow \gamma(4S)$	
1.648±0.049±0.035	⁹ BARATE 00R	ALEP	$e^+ e^- \rightarrow Z$	

$1.643 \pm 0.037 \pm 0.025$	¹⁰ ABBIENDI	99J	OPAL	$e^+ e^- \rightarrow Z$
$1.637 \pm 0.058^{+0.045}_{-0.043}$	⁹ ABE	98Q	CDF	$p\bar{p}$ at 1.8 TeV
$1.66 \pm 0.06 \pm 0.03$	¹⁰ ACCIARRI	98S	L3	$e^+ e^- \rightarrow Z$
$1.66 \pm 0.06 \pm 0.05$	¹⁰ ABE	97J	SLD	$e^+ e^- \rightarrow Z$
$1.58^{+0.21}_{-0.18} {}^{+0.04}_{-0.03}$	94	⁷ BUSKULIC	96J	ALEP $e^+ e^- \rightarrow Z$
$1.61 \pm 0.16 \pm 0.12$	^{9,11} ABREU	95Q	DLPH	$e^+ e^- \rightarrow Z$
$1.72 \pm 0.08 \pm 0.06$	¹² ADAM	95	DLPH	$e^+ e^- \rightarrow Z$
$1.52 \pm 0.14 \pm 0.09$	⁹ AKERS	95T	OPAL	$e^+ e^- \rightarrow Z$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.695 \pm 0.026 \pm 0.015$	⁸ ABE	02H	BELL	Repl. by ABE 05B
$1.68 \pm 0.07 \pm 0.02$	⁷ ABE	98B	CDF	Repl. by ACOSTA 02C
$1.56 \pm 0.13 \pm 0.06$	⁹ ABE	96C	CDF	Repl. by ABE 98Q
$1.58 \pm 0.09 \pm 0.03$	¹³ BUSKULIC	96J	ALEP	$e^+ e^- \rightarrow Z$
$1.58 \pm 0.09 \pm 0.04$	⁹ BUSKULIC	96J	ALEP	Repl. by BARATE 00R
1.70 ± 0.09	¹⁴ ADAM	95	DLPH	$e^+ e^- \rightarrow Z$
$1.61 \pm 0.16 \pm 0.05$	148	⁷ ABE	94D	CDF Repl. by ABE 98B
$1.30^{+0.33}_{-0.29} \pm 0.16$	92	⁹ ABREU	93D	DLPH Sup. by ABREU 95Q
$1.56 \pm 0.19 \pm 0.13$	134	¹² ABREU	93G	DLPH Sup. by ADAM 95
$1.51^{+0.30}_{-0.28} {}^{+0.12}_{-0.14}$	59	⁹ ACTON	93C	OPAL Sup. by AKERS 95T
$1.47^{+0.22}_{-0.19} {}^{+0.15}_{-0.14}$	77	⁹ BUSKULIC	93D	ALEP Sup. by BUSKULIC 96J

⁵ Measurement performed using a combined fit of CP -violation, mixing and lifetimes.

⁶ Measurement performed using an inclusive reconstruction and B flavor identification technique.

⁷ Measured mean life using fully reconstructed decays.

⁸ Events are selected in which one B meson is fully reconstructed while the second B meson is reconstructed inclusively.

⁹ Data analyzed using $D/D^*\ell X$ event vertices.

¹⁰ Data analyzed using charge of secondary vertex.

¹¹ ABREU 95Q assumes $B(B^0 \rightarrow D^{**-} \ell^+ \nu_\ell) = 3.2 \pm 1.7\%$.

¹² Data analyzed using vertex-charge technique to tag B charge.

¹³ Combined result of $D/D^*\ell X$ analysis and fully reconstructed B analysis.

¹⁴ Combined ABREU 95Q and ADAM 95 result.

B^+ DECAY MODES

B^- modes are charge conjugates of the modes below. Modes which do not identify the charge state of the B are listed in the B^\pm/B^0 ADMIXTURE section.

The branching fractions listed below assume 50% $B^0\bar{B}^0$ and 50% B^+B^- production at the $\Upsilon(4S)$. We have attempted to bring older measurements up to date by rescaling their assumed $\Upsilon(4S)$ production ratio to 50:50 and their assumed D , D_s , D^* , and ψ branching ratios to current values whenever this would affect our averages and best limits significantly.

Indentation is used to indicate a subchannel of a previous reaction. All resonant subchannels have been corrected for resonance branching fractions to the final state so the sum of the subchannel branching fractions can exceed that of the final state.

For inclusive branching fractions, e.g., $B \rightarrow D^\pm$ anything, the values usually are multiplicities, not branching fractions. They can be greater than one.

Mode	Fraction (Γ_i/Γ)	Scale factor/ Confidence level
Semileptonic and leptonic modes		
$\Gamma_1 \ell^+ \nu_\ell$ anything	[a] (10.99 \pm 0.28) %	
$\Gamma_2 e^+ \nu_e X_c$	(10.8 \pm 0.4) %	
$\Gamma_3 \bar{D}^0 \ell^+ \nu_\ell$	[a] (2.15 \pm 0.22) %	
$\Gamma_4 \bar{D}^*(2007)^0 \ell^+ \nu_\ell$	[a] (6.5 \pm 0.5) %	
$\Gamma_5 \bar{D}_1(2420)^0 \ell^+ \nu_\ell$	(5.6 \pm 1.6) $\times 10^{-3}$	
$\Gamma_6 \bar{D}_2^*(2460)^0 \ell^+ \nu_\ell$	< 8 $\times 10^{-3}$	CL=90%
$\Gamma_7 D^- \pi^+ \ell^+ \nu_\ell$	(5.2 \pm 1.0) $\times 10^{-3}$	
$\Gamma_8 D^{*-} \pi^+ \ell^+ \nu_\ell$	(6.3 \pm 1.5) $\times 10^{-3}$	
$\Gamma_9 \pi^0 \ell^+ \nu_\ell$	(7.7 \pm 1.2) $\times 10^{-5}$	
$\Gamma_{10} \pi^0 e^+ \nu_e$		
$\Gamma_{11} \eta \ell^+ \nu_\ell$	(8 \pm 4) $\times 10^{-5}$	
$\Gamma_{12} \omega \ell^+ \nu_\ell$	[a] (1.3 \pm 0.6) $\times 10^{-4}$	
$\Gamma_{13} \omega \mu^+ \nu_\mu$		
$\Gamma_{14} \rho^0 \ell^+ \nu_\ell$	[a] (1.28 \pm 0.18) $\times 10^{-4}$	
$\Gamma_{15} p \bar{p} e^+ \nu_e$	< 5.2 $\times 10^{-3}$	CL=90%
$\Gamma_{16} e^+ \nu_e$	< 9.8 $\times 10^{-6}$	CL=90%
$\Gamma_{17} \mu^+ \nu_\mu$	< 1.7 $\times 10^{-6}$	CL=90%
$\Gamma_{18} \tau^+ \nu_\tau$	(1.8 \pm 0.7) $\times 10^{-4}$	
$\Gamma_{19} e^+ \nu_e \gamma$	< 2.0 $\times 10^{-4}$	CL=90%
$\Gamma_{20} \mu^+ \nu_\mu \gamma$	< 5.2 $\times 10^{-5}$	CL=90%
Inclusive modes		
$\Gamma_{21} D^0 X$	(8.6 \pm 0.7) %	
$\Gamma_{22} \bar{D}^0 X$	(79 \pm 4) %	
$\Gamma_{23} D^+ X$	(2.5 \pm 0.5) %	
$\Gamma_{24} D^- X$	(9.9 \pm 1.2) %	
$\Gamma_{25} D_s^+ X$	(7.9 \pm 1.4) %	
$\Gamma_{26} D_s^- X$	(1.10 \pm 0.45) %	
$\Gamma_{27} \Lambda_c^+ X$	(2.1 \pm 0.9) %	
$\Gamma_{28} \bar{\Lambda}_c^- X$	(2.8 \pm 1.1) %	

Γ_{29}	$\bar{c}X$	(97 ± 4) %
Γ_{30}	cX	(23.4 ± 2.2) %
Γ_{31}	$\bar{c}cX$	(120 ± 6) %

 $D, D^*, \text{ or } D_s$ modes

Γ_{32}	$\bar{D}^0\pi^+$	(4.84 ± 0.15) $\times 10^{-3}$
Γ_{33}	$D_{CP(+1)}\pi^+$	[b] (4.0 ± 0.8) $\times 10^{-3}$
Γ_{34}	$D_{CP(-1)}\pi^+$	[b] (3.6 ± 0.8) $\times 10^{-3}$
Γ_{35}	$\bar{D}^0\rho^+$	(1.34 ± 0.18) %
Γ_{36}	\bar{D}^0K^+	(4.02 ± 0.21) $\times 10^{-4}$
Γ_{37}	$D_{CP(+1)}K^+$	[b] (3.6 ± 0.5) $\times 10^{-4}$
Γ_{38}	$D_{CP(-1)}K^+$	[b] (3.5 ± 0.5) $\times 10^{-4}$
Γ_{39}	$[K^-\pi^+]_D K^+$	[c]
Γ_{40}	$[K^+\pi^-]_D K^+$	[c]
Γ_{41}	$[K^-\pi^+]_D K^*(892)^+$	[c]
Γ_{42}	$[K^+\pi^-]_D K^*(892)^+$	[c]
Γ_{43}	$[K^-\pi^+]_D \pi^+$	[c] (1.7 ± 0.5) $\times 10^{-5}$
Γ_{44}	$[\pi^+\pi^-\pi^0]_D K^-$	(5.5 ± 1.2) $\times 10^{-6}$
Γ_{45}	$\bar{D}^0 K^*(892)^+$	(5.3 ± 0.4) $\times 10^{-4}$
Γ_{46}	$D_{CP(-1)} K^*(892)^+$	[b] (1.7 ± 0.7) $\times 10^{-4}$
Γ_{47}	$D_{CP(+1)} K^*(892)^+$	[b] (5.2 ± 1.2) $\times 10^{-4}$
Γ_{48}	$\bar{D}^0 K^+ \bar{K}^0$	(5.5 ± 1.6) $\times 10^{-4}$
Γ_{49}	$\bar{D}^0 K^+ \bar{K}^*(892)^0$	(7.5 ± 1.7) $\times 10^{-4}$
Γ_{50}	$\bar{D}^0 \pi^+ \pi^+ \pi^-$	(1.1 ± 0.4) %
Γ_{51}	$\bar{D}^0 \pi^+ \pi^+ \pi^-$ nonresonant	(5 ± 4) $\times 10^{-3}$
Γ_{52}	$\bar{D}^0 \pi^+ \rho^0$	(4.2 ± 3.0) $\times 10^{-3}$
Γ_{53}	$\bar{D}^0 a_1(1260)^+$	(4 ± 4) $\times 10^{-3}$
Γ_{54}	$\bar{D}^0 \omega \pi^+$	(4.1 ± 0.9) $\times 10^{-3}$
Γ_{55}	$D^*(2010)^- \pi^+ \pi^+$	(1.35 ± 0.22) $\times 10^{-3}$
Γ_{56}	$D^- \pi^+ \pi^+$	(1.02 ± 0.16) $\times 10^{-3}$
Γ_{57}	$D^+ K^0$	< 5.0 $\times 10^{-6}$ CL=90%
Γ_{58}	$\bar{D}^*(2007)^0 \pi^+$	(5.19 ± 0.26) $\times 10^{-3}$
Γ_{59}	$\bar{D}_{CP(+1)}^{*0} \pi^+$	[d]
Γ_{60}	$\bar{D}_{CP(-1)}^{*0} \pi^+$	[d]
Γ_{61}	$\bar{D}^*(2007)^0 \omega \pi^+$	(4.5 ± 1.2) $\times 10^{-3}$
Γ_{62}	$\bar{D}^*(2007)^0 \rho^+$	(9.8 ± 1.7) $\times 10^{-3}$
Γ_{63}	$\bar{D}^*(2007)^0 K^+$	(4.16 ± 0.33) $\times 10^{-4}$
Γ_{64}	$\bar{D}_{CP(+1)}^{*0} K^+$	[d]
Γ_{65}	$\bar{D}_{CP(-1)}^{*0} K^+$	[d]
Γ_{66}	$\bar{D}^*(2007)^0 K^*(892)^+$	(8.1 ± 1.4) $\times 10^{-4}$
Γ_{67}	$\bar{D}^*(2007)^0 K^+ \bar{K}^0$	< 1.06 $\times 10^{-3}$ CL=90%
Γ_{68}	$\bar{D}^*(2007)^0 K^+ K^*(892)^0$	(1.5 ± 0.4) $\times 10^{-3}$

Γ_{69}	$\overline{D}^*(2007)^0 \pi^+ \pi^+ \pi^-$	(1.03 \pm 0.12) %
Γ_{70}	$\overline{D}^*(2007)^0 a_1(1260)^+$	(1.9 \pm 0.5) %
Γ_{71}	$\overline{D}^*(2007)^0 \pi^- \pi^+ \pi^+ \pi^0$	(1.8 \pm 0.4) %
Γ_{72}	$\overline{D}^{*0} 3\pi^+ 2\pi^-$	(5.7 \pm 1.2) $\times 10^{-3}$
Γ_{73}	$D^*(2010)^+ \pi^0$	< 1.7 $\times 10^{-4}$ CL=90%
Γ_{74}	$D^*(2010)^+ K^0$	< 9.0 $\times 10^{-6}$ CL=90%
Γ_{75}	$D^*(2010)^- \pi^+ \pi^+ \pi^0$	(1.5 \pm 0.7) %
Γ_{76}	$D^*(2010)^- \pi^+ \pi^+ \pi^+ \pi^-$	(2.6 \pm 0.4) $\times 10^{-3}$
Γ_{77}	$\overline{D}^{*0} \pi^+$	[e] (5.9 \pm 1.3) $\times 10^{-3}$
Γ_{78}	$\overline{D}_1^*(2420)^0 \pi^+$	(1.5 \pm 0.6) $\times 10^{-3}$ S=1.3
Γ_{79}	$\overline{D}_1(2420)^0 \pi^+ \times B(\overline{D}_1^0 \rightarrow \overline{D}^0 \pi^+ \pi^-)$	(1.9 \pm 0.5) $\times 10^{-4}$
Γ_{80}	$\overline{D}_2^*(2462)^0 \pi^+ \times B(\overline{D}_2^*(2462)^0 \rightarrow D^- \pi^+)$	(3.4 \pm 0.8) $\times 10^{-4}$
Γ_{81}	$\overline{D}_0^*(2400)^0 \pi^+ \times B(\overline{D}_0^*(2400)^0 \rightarrow D^- \pi^+)$	(6.1 \pm 1.9) $\times 10^{-4}$
Γ_{82}	$\overline{D}_1(2421)^0 \pi^+ \times B(\overline{D}_1(2421)^0 \rightarrow D^{*-} \pi^+)$	(6.8 \pm 1.5) $\times 10^{-4}$
Γ_{83}	$\overline{D}_2^*(2462)^0 \pi^+ \times B(\overline{D}_2^*(2462)^0 \rightarrow D^{*-} \pi^+)$	(1.8 \pm 0.5) $\times 10^{-4}$
Γ_{84}	$\overline{D}'_1(2427)^0 \pi^+ \times B(\overline{D}'_1(2427)^0 \rightarrow D^{*-} \pi^+)$	(5.0 \pm 1.2) $\times 10^{-4}$
Γ_{85}	$\overline{D}_1(2420)^0 \pi^+ \times B(\overline{D}_1^0 \rightarrow \overline{D}^{*0} \pi^+ \pi^-)$	< 6 $\times 10^{-6}$ CL=90%
Γ_{86}	$\overline{D}_1^*(2420)^0 \rho^+$	< 1.4 $\times 10^{-3}$ CL=90%
Γ_{87}	$\overline{D}_2^*(2460)^0 \pi^+$	< 1.3 $\times 10^{-3}$ CL=90%
Γ_{88}	$\overline{D}_2^*(2460)^0 \pi^+ \times B(\overline{D}_2^{*0} \rightarrow \overline{D}^{*0} \pi^+ \pi^-)$	< 2.2 $\times 10^{-5}$ CL=90%
Γ_{89}	$\overline{D}_2^*(2460)^0 \rho^+$	< 4.7 $\times 10^{-3}$ CL=90%
Γ_{90}	$\overline{D}^0 D_s^+$	(10.0 \pm 1.7) $\times 10^{-3}$
Γ_{91}	$D_{s0}(2317)^+ \overline{D}^0 \times B(D_{s0}(2317)^+ \rightarrow D_s^+ \pi^0)$	(7.3 \pm 2.2) $\times 10^{-4}$
Γ_{92}	$D_{s0}(2317)^+ \overline{D}^0 \times B(D_{s0}(2317)^+ \rightarrow D_s^{*+} \gamma)$	< 7.6 $\times 10^{-4}$ CL=90%
Γ_{93}	$D_{s0}(2317)^+ \overline{D}^*(2010)^0 \times B(D_{s0}(2317)^+ \rightarrow D_s^+ \pi^0)$	(9 \pm 7) $\times 10^{-4}$
Γ_{94}	$D_{sJ}(2457)^+ \overline{D}^0$	(3.1 \pm 1.0) $\times 10^{-3}$
Γ_{95}	$D_{sJ}(2457)^+ \overline{D}^0 \times B(D_{sJ}(2457)^+ \rightarrow D_s^+ \gamma)$	(4.6 \pm 1.3) $\times 10^{-4}$

Γ_{96}	$D_{sJ}(2457)^+ \bar{D}^0 \times$ $B(D_{sJ}(2457)^+ \rightarrow D_s^+ \pi^+ \pi^-)$	< 2.2	$\times 10^{-4}$	CL=90%
Γ_{97}	$D_{sJ}(2457)^+ \bar{D}^0 \times$ $B(D_{sJ}(2457)^+ \rightarrow D_s^+ \pi^0)$	< 2.7	$\times 10^{-4}$	CL=90%
Γ_{98}	$D_{sJ}(2457)^+ \bar{D}^0 \times$ $B(D_{sJ}(2457)^+ \rightarrow D_s^{*+} \gamma)$	< 9.8	$\times 10^{-4}$	CL=90%
Γ_{99}	$D_{sJ}(2457)^+ \bar{D}^*(2007)^0$	(1.20 \pm 0.30) %		
Γ_{100}	$D_{sJ}(2457)^+ \bar{D}^*(2007)^0 \times$ $B(D_{sJ}(2457)^+ \rightarrow D_s^+ \gamma)$	(1.4 \pm 0.7) $\times 10^{-3}$		
Γ_{101}	$\bar{D}^0 D_{sJ}(2536)^+ \times$ $B(D_{sJ}(2536)^+ \rightarrow D^*(2007)^0 K^+)$	< 2	$\times 10^{-4}$	CL=90%
Γ_{102}	$\bar{D}^*(2007)^0 D_{sJ}(2536)^+ \times$ $B(D_{sJ}(2536)^+ \rightarrow D^*(2007)^0 K^+)$	< 7	$\times 10^{-4}$	CL=90%
Γ_{103}	$\bar{D}^0 D_{sJ}(2573)^+ \times$ $B(D_{sJ}(2573)^+ \rightarrow D^0 K^+)$	< 2	$\times 10^{-4}$	CL=90%
Γ_{104}	$\bar{D}^*(2007)^0 D_{sJ}(2573)^+ \times$ $B(D_{sJ}(2573)^+ \rightarrow D^0 K^+)$	< 5	$\times 10^{-4}$	CL=90%
Γ_{105}	$\bar{D}^0 D_s^{*+}$	(7.6 \pm 1.6) $\times 10^{-3}$		
Γ_{106}	$\bar{D}^*(2007)^0 D_s^+$	(8.2 \pm 1.7) $\times 10^{-3}$		
Γ_{107}	$\bar{D}^*(2007)^0 D_s^{*+}$	(1.71 \pm 0.24) %		
Γ_{108}	$D_s^{(*)+} \bar{D}^{**0}$	(2.7 \pm 1.2) %		
Γ_{109}	$\bar{D}^*(2007)^0 D^*(2010)^+$	(8.1 \pm 1.7) $\times 10^{-4}$		
Γ_{110}	$\bar{D}^0 D^*(2010)^+ +$ $\bar{D}^*(2007)^0 D^+$	< 1.30	%	CL=90%
Γ_{111}	$\bar{D}^0 D^*(2010)^+$	(3.9 \pm 0.5) $\times 10^{-4}$		
Γ_{112}	$\bar{D}^0 D^+$	(4.2 \pm 0.6) $\times 10^{-4}$		
Γ_{113}	$\bar{D}^0 D^+ K^0$	< 2.8	$\times 10^{-3}$	CL=90%
Γ_{114}	$D^+ \bar{D}^*(2007)^0$	(6.3 \pm 1.7) $\times 10^{-4}$		
Γ_{115}	$\bar{D}^*(2007)^0 D^+ K^0$	< 6.1	$\times 10^{-3}$	CL=90%
Γ_{116}	$\bar{D}^0 \bar{D}^*(2010)^+ K^0$	(5.2 \pm 1.2) $\times 10^{-3}$		
Γ_{117}	$\bar{D}^*(2007)^0 D^*(2010)^+ K^0$	(7.8 \pm 2.6) $\times 10^{-3}$		
Γ_{118}	$\bar{D}^0 D^0 K^+$	(1.37 \pm 0.32) $\times 10^{-3}$	S=1.5	
Γ_{119}	$\bar{D}^*(2007)^0 D^0 K^+$	< 3.8	$\times 10^{-3}$	CL=90%
Γ_{120}	$\bar{D}^0 D^*(2007)^0 K^+$	(4.7 \pm 1.0) $\times 10^{-3}$		
Γ_{121}	$\bar{D}^*(2007)^0 D^*(2007)^0 K^+$	(5.3 \pm 1.6) $\times 10^{-3}$		
Γ_{122}	$D^- D^+ K^+$	< 4	$\times 10^{-4}$	CL=90%
Γ_{123}	$D^- D^*(2010)^+ K^+$	< 7	$\times 10^{-4}$	CL=90%
Γ_{124}	$D^*(2010)^- D^+ K^+$	(1.5 \pm 0.4) $\times 10^{-3}$		
Γ_{125}	$D^*(2010)^- D^*(2010)^+ K^+$	< 1.8	$\times 10^{-3}$	CL=90%

Γ_{126}	$(\overline{D} + \overline{D}^*)(D + D^*)K$	$(3.5 \pm 0.6) \%$
Γ_{127}	$D_s^+ \pi^0$	$(1.6 \pm 0.5) \times 10^{-5}$
Γ_{128}	$D_s^{*+} \pi^0$	$< 2.6 \times 10^{-4} \text{ CL}=90\%$
Γ_{129}	$D_s^+ \eta$	$< 4 \times 10^{-4} \text{ CL}=90\%$
Γ_{130}	$D_s^{*+} \eta$	$< 6 \times 10^{-4} \text{ CL}=90\%$
Γ_{131}	$D_s^+ \rho^0$	$< 3.0 \times 10^{-4} \text{ CL}=90\%$
Γ_{132}	$D_s^{*+} \rho^0$	$< 4 \times 10^{-4} \text{ CL}=90\%$
Γ_{133}	$D_s^+ \omega$	$< 4 \times 10^{-4} \text{ CL}=90\%$
Γ_{134}	$D_s^{*+} \omega$	$< 6 \times 10^{-4} \text{ CL}=90\%$
Γ_{135}	$D_s^+ a_1(1260)^0$	$< 1.8 \times 10^{-3} \text{ CL}=90\%$
Γ_{136}	$D_s^{*+} a_1(1260)^0$	$< 1.3 \times 10^{-3} \text{ CL}=90\%$
Γ_{137}	$D_s^+ \phi$	$< 1.9 \times 10^{-6} \text{ CL}=90\%$
Γ_{138}	$D_s^{*+} \phi$	$< 1.2 \times 10^{-5} \text{ CL}=90\%$
Γ_{139}	$D_s^+ \overline{K}^0$	$< 8 \times 10^{-4} \text{ CL}=90\%$
Γ_{140}	$D_s^{*+} \overline{K}^0$	$< 9 \times 10^{-4} \text{ CL}=90\%$
Γ_{141}	$D_s^+ \overline{K}^*(892)^0$	$< 4 \times 10^{-4} \text{ CL}=90\%$
Γ_{142}	$D_s^{*+} \overline{K}^*(892)^0$	$< 3.5 \times 10^{-4} \text{ CL}=90\%$
Γ_{143}	$D_s^- \pi^+ K^+$	$< 7 \times 10^{-4} \text{ CL}=90\%$
Γ_{144}	$D_s^{*-} \pi^+ K^+$	$< 9.6 \times 10^{-4} \text{ CL}=90\%$
Γ_{145}	$D_s^- \pi^+ K^*(892)^+$	$< 5 \times 10^{-3} \text{ CL}=90\%$
Γ_{146}	$D_s^{*-} \pi^+ K^*(892)^+$	$< 7 \times 10^{-3} \text{ CL}=90\%$

Charmonium modes

Γ_{147}	$\eta_c K^+$	$(9.1 \pm 1.3) \times 10^{-4}$
Γ_{148}	$\eta'_c K^+$	$(3.4 \pm 1.8) \times 10^{-4}$
Γ_{149}	$J/\psi(1S) K^+$	$(1.007 \pm 0.035) \times 10^{-3}$
Γ_{150}	$J/\psi(1S) K^+ \pi^+ \pi^-$	$(1.07 \pm 0.19) \times 10^{-3} \text{ S}=1.9$
Γ_{151}	$h_c(1P) K^+ \times \text{B}(h_c(1P) \rightarrow J/\psi \pi^+ \pi^-)$	$< 3.4 \times 10^{-6} \text{ CL}=90\%$
Γ_{152}	$X(3872) K^+$	$< 3.2 \times 10^{-4} \text{ CL}=90\%$
Γ_{153}	$X(3872) K^+ \times \text{B}(X \rightarrow J/\psi \pi^+ \pi^-)$	$(1.14 \pm 0.20) \times 10^{-5}$
Γ_{154}	$X(3872) K^+ \times \text{B}(X \rightarrow J/\psi \gamma)$	$(3.3 \pm 1.0) \times 10^{-6}$
Γ_{155}	$X(3872) K^+ \times \text{B}(X(3872) \rightarrow D^0 \overline{D}^0)$	$< 6.0 \times 10^{-5} \text{ CL}=90\%$
Γ_{156}	$X(3872) K^+ \times \text{B}(X(3872) \rightarrow D^+ D^-)$	$< 4.0 \times 10^{-5} \text{ CL}=90\%$
Γ_{157}	$X(3872) K^+ \times \text{B}(X(3872) \rightarrow D^0 \overline{D}^0 \pi^0)$	$(1.0 \pm 0.4) \times 10^{-4}$
Γ_{158}	$X(3872) K^+ \times \text{B}(X(3872) \rightarrow J/\psi(1S) \eta)$	$< 7.7 \times 10^{-6} \text{ CL}=90\%$

Γ_{159}	$X(3872)^+ K^0 \times B(X(3872)^+ \rightarrow [f] < 2.2 \times 10^{-5} \text{ CL=90\%}$	$J/\psi(1S)\pi^+\pi^0)$
Γ_{160}	$X(4260)^0 K^+ \times B(X^0 \rightarrow < 2.9 \times 10^{-5} \text{ CL=95\%}$	$J/\psi\pi^+\pi^-)$
Γ_{161}	$X(3945)^0 K^+ \times B(X^0 \rightarrow < 1.4 \times 10^{-5} \text{ CL=90\%}$	$J/\psi\gamma)$
Γ_{162}	$Z(3930)^0 K^+ \times B(Z^0 \rightarrow J/\psi\gamma) < 2.5 \times 10^{-6} \text{ CL=90\%}$	
Γ_{163}	$J/\psi(1S)K^*(892)^+ (1.41 \pm 0.08) \times 10^{-3}$	
Γ_{164}	$J/\psi(1S)K(1270)^+ (1.8 \pm 0.5) \times 10^{-3}$	
Γ_{165}	$J/\psi(1S)K(1400)^+ < 5 \times 10^{-4} \text{ CL=90\%}$	
Γ_{166}	$J/\psi(1S)\eta K^+ (1.08 \pm 0.33) \times 10^{-4}$	
Γ_{167}	$J/\psi(1S)\phi K^+ (5.2 \pm 1.7) \times 10^{-5} \text{ S=1.2}$	
Γ_{168}	$J/\psi(1S)\pi^+ (4.9 \pm 0.6) \times 10^{-5} \text{ S=1.5}$	
Γ_{169}	$J/\psi(1S)\rho^+ < 7.7 \times 10^{-4} \text{ CL=90\%}$	
Γ_{170}	$J/\psi(1S)a_1(1260)^+ < 1.2 \times 10^{-3} \text{ CL=90\%}$	
Γ_{171}	$J/\psi(1S)p\bar{\Lambda} (1.18 \pm 0.31) \times 10^{-5}$	
Γ_{172}	$J/\psi(1S)\bar{\Sigma}^0 p < 1.1 \times 10^{-5} \text{ CL=90\%}$	
Γ_{173}	$J/\psi(1S)D^+ < 1.2 \times 10^{-4} \text{ CL=90\%}$	
Γ_{174}	$J/\psi(1S)\bar{D}^0\pi^+ < 2.5 \times 10^{-5} \text{ CL=90\%}$	
Γ_{175}	$\psi(2S)K^+ (6.48 \pm 0.35) \times 10^{-4}$	
Γ_{176}	$\psi(2S)K^*(892)^+ (6.7 \pm 1.4) \times 10^{-4} \text{ S=1.3}$	
Γ_{177}	$\psi(2S)K^+\pi^+\pi^- (1.9 \pm 1.2) \times 10^{-3}$	
Γ_{178}	$\psi(3770)K^+ (4.9 \pm 1.3) \times 10^{-4}$	
Γ_{179}	$\psi(3770)K^+ \times B(\psi(3770) \rightarrow D^0\bar{D}^0) (3.4 \pm 0.9) \times 10^{-4}$	
Γ_{180}	$\psi(3770)K^+ \times B(\psi(3770) \rightarrow D^+D^-K^+) (1.4 \pm 0.8) \times 10^{-4}$	
Γ_{181}	$\chi_{c0}\pi^+ \times B(\chi_{c0} \rightarrow \pi^+\pi^-) < 3 \times 10^{-7} \text{ CL=90\%}$	
Γ_{182}	$\chi_{c0}(1P)K^+ (1.40 \pm 0.23) \times 10^{-4}$	
Γ_{183}	$\chi_{c0}K^*(892)^+ < 2.86 \times 10^{-3} \text{ CL=90\%}$	
Γ_{184}	$\chi_{c2}K^+ < 2.9 \times 10^{-5} \text{ CL=90\%}$	
Γ_{185}	$\chi_{c2}K^*(892)^+ < 1.2 \times 10^{-5} \text{ CL=90\%}$	
Γ_{186}	$\chi_{c1}(1P)\pi^+ (2.2 \pm 0.5) \times 10^{-5}$	
Γ_{187}	$\chi_{c1}(1P)K^+ (4.9 \pm 0.5) \times 10^{-4} \text{ S=1.5}$	
Γ_{188}	$\chi_{c1}(1P)K^*(892)^+ (3.6 \pm 0.9) \times 10^{-4}$	
Γ_{189}	$h_cK^+ < 3.8 \times 10^{-5}$	

K or K^* modes

Γ_{190}	$K^0\pi^+ (2.30 \pm 0.12) \times 10^{-5}$
Γ_{191}	$K^+\pi^0 (1.21 \pm 0.08) \times 10^{-5}$
Γ_{192}	$\eta'K^+ (6.97 \pm 0.28) \times 10^{-5}$
Γ_{193}	$\eta'K^*(892)^+ (4.9 \pm 2.0) \times 10^{-6}$
Γ_{194}	$\eta K^+ (2.6 \pm 0.6) \times 10^{-6} \text{ S=1.3}$
Γ_{195}	$\eta K^*(892)^+ (1.93 \pm 0.22) \times 10^{-5}$

Γ_{196}	$\eta K_0^*(1430)^+$	(1.8 \pm 0.4) $\times 10^{-5}$	
Γ_{197}	$\eta K_2^*(1430)^+$	(9.1 \pm 3.0) $\times 10^{-6}$	
Γ_{198}	ωK^+	(6.8 \pm 0.9) $\times 10^{-6}$	S=1.6
Γ_{199}	$\omega K^*(892)^+$	< 3.4 $\times 10^{-6}$	CL=90%
Γ_{200}	$a_0^+ K^0$	< 3.9 $\times 10^{-6}$	CL=90%
Γ_{201}	$a_0^- K^+$	< 2.5 $\times 10^{-6}$	CL=90%
Γ_{202}	$K^*(892)^0 \pi^+$	(1.09 \pm 0.18) $\times 10^{-5}$	S=2.1
Γ_{203}	$K^*(892)^+ \pi^0$	(6.9 \pm 2.4) $\times 10^{-6}$	
Γ_{204}	$K^+ \pi^- \pi^+$	(5.5 \pm 0.7) $\times 10^{-5}$	S=2.6
Γ_{205}	$K^+ \pi^- \pi^+$ nonresonant	(6 \pm 6) $\times 10^{-6}$	S=6.1
Γ_{206}	$K^+ f_0(980) \times B(f_0 \rightarrow \pi^+ \pi^-)$	(9.2 \pm 0.8) $\times 10^{-6}$	
Γ_{207}	$f_2(1270)^0 K^+$	(1.3 \pm 0.4) $\times 10^{-6}$	
Γ_{208}	$f_0(1370)^0 K^+ \times B(f_0(1370)^0 \rightarrow \pi^+ \pi^-)$	< 1.07 $\times 10^{-5}$	CL=90%
Γ_{209}	$\rho^0(1450) K^+ \times B(\rho^0(1450) \rightarrow \pi^+ \pi^-)$	< 1.17 $\times 10^{-5}$	CL=90%
Γ_{210}	$f_0(1500) K^+ \times B(f_0(1500) \rightarrow \pi^+ \pi^-)$	< 4.4 $\times 10^{-6}$	CL=90%
Γ_{211}	$f'_2(1525) K^+ \times B(f'_2(1525) \rightarrow \pi^+ \pi^-)$	< 3.4 $\times 10^{-6}$	CL=90%
Γ_{212}	$K^+ \rho^0$	(4.2 \pm 0.5) $\times 10^{-6}$	
Γ_{213}	$K_0^*(1430)^0 \pi^+$	(4.7 \pm 0.5) $\times 10^{-5}$	
Γ_{214}	$K_2^*(1430)^0 \pi^+$	< 6.9 $\times 10^{-6}$	CL=90%
Γ_{215}	$K^*(1410)^0 \pi^+$	< 4.5 $\times 10^{-5}$	CL=90%
Γ_{216}	$K^*(1680)^0 \pi^+$	< 1.2 $\times 10^{-5}$	CL=90%
Γ_{217}	$K^- \pi^+ \pi^+$	< 1.8 $\times 10^{-6}$	CL=90%
Γ_{218}	$K^- \pi^+ \pi^+$ nonresonant	< 5.6 $\times 10^{-5}$	CL=90%
Γ_{219}	$K_1(1400)^0 \pi^+$	< 2.6 $\times 10^{-3}$	CL=90%
Γ_{220}	$K^0 \pi^+ \pi^0$	< 6.6 $\times 10^{-5}$	CL=90%
Γ_{221}	$K^0 \rho^+$	< 4.8 $\times 10^{-5}$	CL=90%
Γ_{222}	$K^*(892)^+ \pi^+ \pi^-$	(7.5 \pm 1.0) $\times 10^{-5}$	
Γ_{223}	$K^*(892)^+ \rho^0$	< 6.1 $\times 10^{-6}$	CL=90%
Γ_{224}	$K^*(892)^+ f_0(980)$	(5.2 \pm 1.3) $\times 10^{-6}$	
Γ_{225}	$K^*(892)^0 \rho^+$	(9.2 \pm 1.5) $\times 10^{-6}$	
Γ_{226}	$K^*(892)^+ K^*(892)^0$	< 7.1 $\times 10^{-5}$	CL=90%
Γ_{227}	$K_1(1400)^+ \rho^0$	< 7.8 $\times 10^{-4}$	CL=90%
Γ_{228}	$K_2^*(1430)^+ \rho^0$	< 1.5 $\times 10^{-3}$	CL=90%
Γ_{229}	$K^+ \bar{K}^0$	(1.28 \pm 0.30) $\times 10^{-6}$	
Γ_{230}	$\bar{K}^0 K^+ \pi^0$	< 2.4 $\times 10^{-5}$	CL=90%
Γ_{231}	$K^+ K_S^0 K_S^0$	(1.15 \pm 0.13) $\times 10^{-5}$	
Γ_{232}	$K_S^0 K_S^0 \pi^+$	< 3.2 $\times 10^{-6}$	CL=90%

Γ_{233}	$K^+ K^- \pi^+$	<	6.3	$\times 10^{-6}$	CL=90%
Γ_{234}	$K^+ K^- \pi^+$ nonresonant	<	7.5	$\times 10^{-5}$	CL=90%
Γ_{235}	$K^+ K^+ \pi^-$	<	1.3	$\times 10^{-6}$	CL=90%
Γ_{236}	$K^+ K^+ \pi^-$ nonresonant	<	8.79	$\times 10^{-5}$	CL=90%
Γ_{237}	$K^+ K^*(892)^0$	<	5.3	$\times 10^{-6}$	CL=90%
Γ_{238}	$K^+ f_J(2220)$				
Γ_{239}	$K^{*+} \pi^+ K^-$	<	1.18	$\times 10^{-5}$	CL=90%
Γ_{240}	$K^{*+} K^+ \pi^-$	<	6.1	$\times 10^{-6}$	CL=90%
Γ_{241}	$K^+ K^- K^+$		(3.37 \pm 0.22)	$\times 10^{-5}$	S=1.4
Γ_{242}	$K^+ \phi$		(8.3 \pm 0.7)	$\times 10^{-6}$	
Γ_{243}	$f_0(980) K^+ \times B(f_0(980) \rightarrow K^+ K^-)$	<	2.9	$\times 10^{-6}$	CL=90%
Γ_{244}	$a_2(1320) K^+ \times B(a_2(1320) \rightarrow K^+ K^-)$	<	1.1	$\times 10^{-6}$	CL=90%
Γ_{245}	$f'_2(1525) K^+ \times B(f'_2(1525) \rightarrow K^+ K^-)$	<	4.9	$\times 10^{-6}$	CL=90%
Γ_{246}	$X_0(1550) K^+ \times B(X_0(1550) \rightarrow K^+ K^-)$		(4.3 \pm 0.7)	$\times 10^{-6}$	
Γ_{247}	$\phi(1680) K^+ \times B(\phi(1680) \rightarrow K^+ K^-)$	<	8	$\times 10^{-7}$	CL=90%
Γ_{248}	$f_0(1710) K^+ \times B(f_0(1710) \rightarrow K^+ K^-)$		(1.7 \pm 1.0)	$\times 10^{-6}$	
Γ_{249}	$K^+ K^- K^+$ nonresonant		(2.8 \pm 0.9)	$\times 10^{-5}$	S=3.3
Γ_{250}	$K^*(892)^+ K^+ K^-$		(3.6 \pm 0.5)	$\times 10^{-5}$	
Γ_{251}	$K^*(892)^+ \phi$		(9.6 \pm 3.0)	$\times 10^{-6}$	S=1.9
Γ_{252}	$K_1(1400)^+ \phi$	<	1.1	$\times 10^{-3}$	CL=90%
Γ_{253}	$K_2^*(1430)^+ \phi$	<	3.4	$\times 10^{-3}$	CL=90%
Γ_{254}	$K^+ \phi \phi$		(4.9 \pm 2.4)	$\times 10^{-6}$	S=2.9
Γ_{255}	$\eta' \eta' K^+$	<	2.5	$\times 10^{-5}$	CL=90%
Γ_{256}	$K^*(892)^+ \gamma$		(4.03 \pm 0.26)	$\times 10^{-5}$	
Γ_{257}	$K_1(1270)^+ \gamma$		(4.3 \pm 1.3)	$\times 10^{-5}$	
Γ_{258}	$\eta K^+ \gamma$		(9.4 \pm 1.1)	$\times 10^{-6}$	
Γ_{259}	$\eta' K^+ \gamma$	<	4.2	$\times 10^{-6}$	CL=90%
Γ_{260}	$\phi K^+ \gamma$		(3.5 \pm 0.6)	$\times 10^{-6}$	
Γ_{261}	$K^+ \pi^- \pi^+ \gamma$		(2.50 \pm 0.28)	$\times 10^{-5}$	
Γ_{262}	$K^*(892)^0 \pi^+ \gamma$		(2.0 \pm 0.7)	$\times 10^{-5}$	
Γ_{263}	$K^+ \rho^0 \gamma$	<	2.0	$\times 10^{-5}$	CL=90%
Γ_{264}	$K^+ \pi^- \pi^+ \gamma$ nonresonant	<	9.2	$\times 10^{-6}$	CL=90%
Γ_{265}	$K_1(1400)^+ \gamma$	<	1.5	$\times 10^{-5}$	CL=90%
Γ_{266}	$K_2^*(1430)^+ \gamma$		(1.4 \pm 0.4)	$\times 10^{-5}$	

Γ_{267}	$K^*(1680)^+\gamma$	<	1.9	$\times 10^{-3}$	CL=90%
Γ_{268}	$K_3^*(1780)^+\gamma$	<	3.9	$\times 10^{-5}$	CL=90%
Γ_{269}	$K_4^*(2045)^+\gamma$	<	9.9	$\times 10^{-3}$	CL=90%

Light unflavored meson modes

Γ_{270}	$\rho^+\gamma$		(8.8 ± 2.9)	$\times 10^{-7}$	
Γ_{271}	$\pi^+\pi^0$		(5.5 ± 0.6)	$\times 10^{-6}$	
Γ_{272}	$\pi^+\pi^+\pi^-$		(1.62 ± 0.15)	$\times 10^{-5}$	
Γ_{273}	$\rho^0\pi^+$		(8.7 ± 1.1)	$\times 10^{-6}$	
Γ_{274}	$\pi^+ f_0(980) \times B(f_0(980) \rightarrow \pi^+\pi^-)$	<	3.0	$\times 10^{-6}$	CL=90%
Γ_{275}	$\pi^+ f_2(1270)$		(8.2 ± 2.5)	$\times 10^{-6}$	
Γ_{276}	$\rho(1450)^0\pi^+$	<	2.3	$\times 10^{-6}$	CL=90%
Γ_{277}	$f_0(1370)\pi^+ \times B(f_0(1370) \rightarrow \pi^+\pi^-)$	<	3.0	$\times 10^{-6}$	CL=90%
Γ_{278}	$f_0(600)\pi^+ \times B(f_0(600) \rightarrow \pi^+\pi^-)$	<	4.1	$\times 10^{-6}$	CL=90%
Γ_{279}	$\pi^+\pi^-\pi^+$ nonresonant	<	4.6	$\times 10^{-6}$	CL=90%
Γ_{280}	$\pi^+\pi^0\pi^0$	<	8.9	$\times 10^{-4}$	CL=90%
Γ_{281}	$\rho^+\pi^0$		(1.20 ± 0.19)	$\times 10^{-5}$	
Γ_{282}	$\pi^+\pi^-\pi^+\pi^0$	<	4.0	$\times 10^{-3}$	CL=90%
Γ_{283}	$\rho^+\rho^0$		(1.8 ± 0.4)	$\times 10^{-5}$	S=1.5
Γ_{284}	$\rho^+ f_0(980) \times B(f_0(980) \rightarrow \pi^+\pi^-)$	<	1.9	$\times 10^{-6}$	CL=90%
Γ_{285}	$a_1(1260)^+\pi^0$	<	1.7	$\times 10^{-3}$	CL=90%
Γ_{286}	$a_1(1260)^0\pi^+$	<	9.0	$\times 10^{-4}$	CL=90%
Γ_{287}	$\omega\pi^+$		(6.7 ± 0.6)	$\times 10^{-6}$	
Γ_{288}	$\omega\rho^+$		(1.06 ± 0.26)	$\times 10^{-5}$	
Γ_{289}	$\eta\pi^+$		(4.9 ± 0.5)	$\times 10^{-6}$	
Γ_{290}	$\eta'\pi^+$		(2.6 ± 1.1)	$\times 10^{-6}$	S=2.0
Γ_{291}	$\eta'\rho^+$		(8.7 ± 3.9)	$\times 10^{-6}$	
Γ_{292}	$\eta\rho^+$		(8.4 ± 2.2)	$\times 10^{-6}$	
Γ_{293}	$\phi\pi^+$	<	2.4	$\times 10^{-7}$	CL=90%
Γ_{294}	$\phi\rho^+$	<	1.6	$\times 10^{-5}$	
Γ_{295}	$a_0^0\pi^+$	<	5.8	$\times 10^{-6}$	CL=90%
Γ_{296}	$\pi^+\pi^+\pi^+\pi^-\pi^-$	<	8.6	$\times 10^{-4}$	CL=90%
Γ_{297}	$\rho^0 a_1(1260)^+$	<	6.2	$\times 10^{-4}$	CL=90%
Γ_{298}	$\rho^0 a_2(1320)^+$	<	7.2	$\times 10^{-4}$	CL=90%
Γ_{299}	$\pi^+\pi^+\pi^+\pi^-\pi^-\pi^0$	<	6.3	$\times 10^{-3}$	CL=90%
Γ_{300}	$a_1(1260)^+ a_1(1260)^0$	<	1.3	%	CL=90%

Charged particle (h^\pm) modes

$h^\pm = K^\pm$ or π^\pm

Γ_{301}	$h^+ \pi^0$	(1.6 $\begin{array}{l} +0.7 \\ -0.6 \end{array}$) $\times 10^{-5}$
Γ_{302}	ωh^+	(1.38 $\begin{array}{l} +0.27 \\ -0.24 \end{array}$) $\times 10^{-5}$
Γ_{303}	$h^+ X^0$ (Familon)	< 4.9 $\times 10^{-5}$ CL=90%

Baryon modes

Γ_{304}	$p\bar{p}\pi^+$	(3.1 $\begin{array}{l} +0.8 \\ -0.7 \end{array}$) $\times 10^{-6}$
Γ_{305}	$p\bar{p}\pi^+$ nonresonant	< 5.3 $\times 10^{-5}$ CL=90%
Γ_{306}	$p\bar{p}\pi^+\pi^+\pi^-$	< 5.2 $\times 10^{-4}$ CL=90%
Γ_{307}	$p\bar{p}K^+$	(5.6 ± 1.0) $\times 10^{-6}$ S=2.4
Γ_{308}	$\Theta(1710)^{++}\bar{p} \times B(\Theta(1710)^{++} \rightarrow pK^+)$	[g] < 9.1 $\times 10^{-8}$ CL=90%
Γ_{309}	$f_J(2220)K^+ \times B(f_J(2220) \rightarrow p\bar{p})$	[g] < 4.1 $\times 10^{-7}$ CL=90%
Γ_{310}	$p\bar{\Lambda}(1520)$	< 1.5 $\times 10^{-6}$ CL=90%
Γ_{311}	$p\bar{p}K^+$ nonresonant	< 8.9 $\times 10^{-5}$ CL=90%
Γ_{312}	$p\bar{p}K^*(892)^+$	(1.03 $\begin{array}{l} +0.38 \\ -0.33 \end{array}$) $\times 10^{-5}$
Γ_{313}	$p\bar{\Lambda}$	< 4.9 $\times 10^{-7}$ CL=90%
Γ_{314}	$p\bar{\Lambda}\gamma$	(2.2 ± 0.6) $\times 10^{-6}$
Γ_{315}	$p\bar{\Sigma}\gamma$	< 4.6 $\times 10^{-6}$ CL=90%
Γ_{316}	$p\bar{\Lambda}\pi^+\pi^-$	< 2.0 $\times 10^{-4}$ CL=90%
Γ_{317}	$\Lambda\bar{\Lambda}\pi^+$	< 2.8 $\times 10^{-6}$ CL=90%
Γ_{318}	$\Lambda\bar{\Lambda}K^+$	(2.9 $\begin{array}{l} +1.0 \\ -0.8 \end{array}$) $\times 10^{-6}$
Γ_{319}	$\bar{\Delta}^0 p$	< 3.8 $\times 10^{-4}$ CL=90%
Γ_{320}	$\Delta^{++}\bar{p}$	< 1.5 $\times 10^{-4}$ CL=90%
Γ_{321}	$D^+ p\bar{p}$	< 1.5 $\times 10^{-5}$ CL=90%
Γ_{322}	$D^*(2010)^+ p\bar{p}$	< 1.5 $\times 10^{-5}$ CL=90%
Γ_{323}	$\bar{\Lambda}_c^- p\pi^+$	(2.1 ± 0.6) $\times 10^{-4}$
Γ_{324}	$\bar{\Lambda}_c^- \Delta(1232)^{++}$	< 1.9 $\times 10^{-5}$ CL=90%
Γ_{325}	$\bar{\Lambda}_c^- \Delta_X(1600)^{++}$	(5.9 ± 1.9) $\times 10^{-5}$
Γ_{326}	$\bar{\Lambda}_c^- \Delta_X(2420)^{++}$	(4.7 ± 1.6) $\times 10^{-5}$
Γ_{327}	$(\bar{\Lambda}_c^- p)_s\pi^+$	[h] (3.9 ± 1.3) $\times 10^{-5}$
Γ_{328}	$\bar{\Lambda}_c^- p\pi^+\pi^0$	(1.8 ± 0.6) $\times 10^{-3}$
Γ_{329}	$\bar{\Lambda}_c^- p\pi^+\pi^+\pi^-$	(2.3 ± 0.7) $\times 10^{-3}$
Γ_{330}	$\bar{\Lambda}_c^- p\pi^+\pi^+\pi^-\pi^0$	< 1.34 % CL=90%
Γ_{331}	$\Lambda_c^+\bar{\Lambda}_c^- K^+$	(7 ± 4) $\times 10^{-4}$
Γ_{332}	$\bar{\Sigma}_c(2455)^0 p$	(3.7 ± 1.3) $\times 10^{-5}$
Γ_{333}	$\bar{\Sigma}_c(2520)^0 p$	< 2.7 $\times 10^{-5}$ CL=90%

Γ_{334}	$\overline{\Sigma}_c(2455)^0 p \pi^0$		(4.4 \pm 1.8) $\times 10^{-4}$	
Γ_{335}	$\overline{\Sigma}_c(2455)^0 p \pi^- \pi^+$		(4.4 \pm 1.7) $\times 10^{-4}$	
Γ_{336}	$\overline{\Sigma}_c(2455)^{--} p \pi^+ \pi^+$		(2.8 \pm 1.2) $\times 10^{-4}$	
Γ_{337}	$\overline{\Lambda}_c(2593)^- / \overline{\Lambda}_c(2625)^- p \pi^+$	<	1.9 $\times 10^{-4}$	CL=90%
Γ_{338}	$\Xi_c^0 \Lambda_c^+ \times B(\Xi_c^0 \rightarrow \Xi^+ \pi^-)$		(5.6 $^{+2.7}_{-2.4}$) $\times 10^{-5}$	
Γ_{339}	$\Xi_c^0 \Lambda_c^+ \times B(\Xi_c^0 \rightarrow \Lambda K^+ \pi^-)$		(4.0 \pm 1.6) $\times 10^{-5}$	

**Lepton Family number (LF) or Lepton number (L) violating modes, or
 $\Delta B = 1$ weak neutral current ($B1$) modes**

Γ_{340}	$\pi^+ e^+ e^-$	$B1$	< 3.9	$\times 10^{-3}$	CL=90%
Γ_{341}	$\pi^+ \mu^+ \mu^-$	$B1$	< 9.1	$\times 10^{-3}$	CL=90%
Γ_{342}	$\pi^+ \nu \bar{\nu}$	$B1$	< 1.0	$\times 10^{-4}$	CL=90%
Γ_{343}	$K^+ e^+ e^-$	$B1$	(4.9 \pm 1.0)	$\times 10^{-7}$	
Γ_{344}	$K^+ \mu^+ \mu^-$	$B1$	(3.9 $^{+1.0}_{-0.9}$)	$\times 10^{-7}$	
Γ_{345}	$K^+ \ell^+ \ell^-$	$B1$	[a] (4.4 $^{+0.8}_{-0.7}$)	$\times 10^{-7}$	S=1.1
Γ_{346}	$K^+ \bar{\nu} \nu$	$B1$	< 5.2	$\times 10^{-5}$	CL=90%
Γ_{347}	$K^*(892)^+ e^+ e^-$	$B1$	(8 \pm 8)	$\times 10^{-7}$	
Γ_{348}	$K^*(892)^+ \mu^+ \mu^-$	$B1$	(8 $^{+6}_{-4}$)	$\times 10^{-7}$	
Γ_{349}	$K^*(892)^+ \ell^+ \ell^-$	$B1$	[a] (7 \pm 5)	$\times 10^{-7}$	
Γ_{350}	$\pi^+ e^+ \mu^-$	LF	< 6.4	$\times 10^{-3}$	CL=90%
Γ_{351}	$\pi^+ e^- \mu^+$	LF	< 6.4	$\times 10^{-3}$	CL=90%
Γ_{352}	$K^+ e^+ \mu^-$	LF	< 9.1	$\times 10^{-8}$	CL=90%
Γ_{353}	$K^+ e^- \mu^+$	LF	< 1.3	$\times 10^{-7}$	CL=90%
Γ_{354}	$K^+ e^\pm \mu^\mp$	LF	< 9.1	$\times 10^{-8}$	CL=90%
Γ_{355}	$K^*(892)^+ e^+ \mu^-$	LF	< 1.3	$\times 10^{-6}$	CL=90%
Γ_{356}	$K^*(892)^+ e^- \mu^+$	LF	< 9.9	$\times 10^{-7}$	CL=90%
Γ_{357}	$K^*(892)^+ e^\pm \mu^\mp$	LF	< 1.4	$\times 10^{-7}$	CL=90%
Γ_{358}	$\pi^- e^+ e^+$	L	< 1.6	$\times 10^{-6}$	CL=90%
Γ_{359}	$\pi^- \mu^+ \mu^+$	L	< 1.4	$\times 10^{-6}$	CL=90%
Γ_{360}	$\pi^- e^+ \mu^+$	L	< 1.3	$\times 10^{-6}$	CL=90%
Γ_{361}	$\rho^- e^+ e^+$	L	< 2.6	$\times 10^{-6}$	CL=90%
Γ_{362}	$\rho^- \mu^+ \mu^+$	L	< 5.0	$\times 10^{-6}$	CL=90%
Γ_{363}	$\rho^- e^+ \mu^+$	L	< 3.3	$\times 10^{-6}$	CL=90%
Γ_{364}	$K^- e^+ e^+$	L	< 1.0	$\times 10^{-6}$	CL=90%
Γ_{365}	$K^- \mu^+ \mu^+$	L	< 1.8	$\times 10^{-6}$	CL=90%
Γ_{366}	$K^- e^+ \mu^+$	L	< 2.0	$\times 10^{-6}$	CL=90%
Γ_{367}	$K^*(892)^- e^+ e^+$	L	< 2.8	$\times 10^{-6}$	CL=90%
Γ_{368}	$K^*(892)^- \mu^+ \mu^+$	L	< 8.3	$\times 10^{-6}$	CL=90%
Γ_{369}	$K^*(892)^- e^+ \mu^+$	L	< 4.4	$\times 10^{-6}$	CL=90%

- [a] An ℓ indicates an e or a μ mode, not a sum over these modes.
 - [b] An $CP(\pm 1)$ indicates the $CP=+1$ and $CP=-1$ eigenstates of the D^0 - \overline{D}^0 system.
 - [c] D denotes D^0 or \overline{D}^0 .
 - [d] D_{CP+}^{*0} decays into $D^0\pi^0$ with the D^0 reconstructed in CP -even eigenstates K^+K^- and $\pi^+\pi^-$.
 - [e] \overline{D}^{**} represents an excited state with mass $2.2 < M < 2.8$ GeV/c².
 - [f] $X(3872)^+$ is a hypothetical charged partner of the $X(3872)$.
 - [g] $\Theta(1710)^{++}$ is a possible narrow pentaquark state and $G(2220)$ is a possible glueball resonance.
 - [h] $(\overline{\Lambda}_c^- p)_s$ denotes a low-mass enhancement near 3.35 GeV/c².
-

CONSTRAINED FIT INFORMATION

An overall fit to 3 branching ratios uses 11 measurements and one constraint to determine 3 parameters. The overall fit has a $\chi^2 = 7.2$ for 9 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\langle \delta x_i \delta x_j \rangle / (\delta x_i \cdot \delta x_j)$, in percent, from the fit to the branching fractions, $x_i \equiv \Gamma_i / \Gamma_{\text{total}}$. The fit constrains the x_i whose labels appear in this array to sum to one.

$$\begin{array}{c} x_{168} \\ \boxed{24} \\ x_{149} \end{array}$$

B^+ BRANCHING RATIOS

$\Gamma(\ell^+ \nu_\ell \text{anything}) / \Gamma_{\text{total}}$

Γ_1 / Γ

“OUR EVALUATION” is an average using rescaled values of the data listed below. The average and rescaling were performed by the Heavy Flavor Averaging Group (HFAG) and are described at <http://www.slac.stanford.edu/xorg/hfag/>. The averaging/rescaling procedure takes into account correlations between the measurements.

VALUE (units 10 ⁻²)	DOCUMENT ID	TECN	COMMENT
10.99 ± 0.28 OUR EVALUATION			
10.76 ± 0.32 OUR AVERAGE	Error includes scale factor of 1.1.		
11.17 ± 0.25 ± 0.28	15 URQUIJO 07 BELL $e^+ e^- \rightarrow \gamma(4S)$		
10.28 ± 0.26 ± 0.39	16 AUBERT,B 06Y BABR $e^+ e^- \rightarrow \gamma(4S)$		
10.25 ± 0.57 ± 0.65	17 ARTUSO 97 CLE2 $e^+ e^- \rightarrow \gamma(4S)$		
• • • We do not use the following data for averages, fits, limits, etc. • • •			
11.15 ± 0.26 ± 0.41	18 OKABE 05 BELL Repl. by URQUIJO 07		
10.1 ± 1.8 ± 1.5	ATHANAS 94 CLE2 Sup. by ARTUSO 97		

15 URQUIJO 07 report a measurement of $(10.34 \pm 0.23 \pm 0.25)\%$ for the partial branching fraction of $B^+ \rightarrow e^+ \nu_e X_c$ decay with electron energy above 0.6 GeV. We converted the result to $B^+ \rightarrow e^+ \nu_e X$ branching fraction.

16 The measurements are obtained for charged and neutral B mesons partial rates of semileptonic decay to electrons with momentum above 0.6 GeV/c in the B rest frame. The best precision on the ratio is achieved for a momentum threshold of 1.0 GeV: $B(B^+ \rightarrow e^+ \nu_e X) / B(B^0 \rightarrow e^+ \nu_e X) = 1.074 \pm 0.041 \pm 0.026$.

17 ARTUSO 97 uses partial reconstruction of $B \rightarrow D^* \ell \nu_\ell$ and inclusive semileptonic branching ratio from BARISH 96B ($0.1049 \pm 0.0017 \pm 0.0043$).

18 The measurements are obtained for charged and neutral B mesons partial rates of semileptonic decay to electrons with momentum above 0.6 GeV/c in the B rest frame, and their ratio of $B(B^+ \rightarrow e^+ \nu_e X) / B(B^0 \rightarrow e^+ \nu_e X) = 1.08 \pm 0.05 \pm 0.02$.

$\Gamma(e^+ \nu_e X_c)/\Gamma_{\text{total}}$

VALUE (units 10^{-2})

10.79 ± 0.25 ± 0.27

DOCUMENT ID

19 URQUIJO

TECN

BELL

COMMENT

Γ_2/Γ

$e^+ e^- \rightarrow \gamma(4S)$

19 Measure the independent B^+ and B^0 partial branching fractions with electron threshold energies of 0.4 GeV.

$\Gamma(\bar{D}^0 \ell^+ \nu_\ell)/\Gamma_{\text{total}}$

$\ell = e$ or μ , not sum over e and μ modes.

VALUE

0.0215 ± 0.0022 OUR AVERAGE

DOCUMENT ID

20 BARTELT

TECN

99 CLE2

COMMENT

Γ_3/Γ

$e^+ e^- \rightarrow \gamma(4S)$

0.016 ± 0.006 ± 0.003

21 FULTON

91 CLEO

$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.0194 ± 0.0015 ± 0.0034

22 ATHANAS

97 CLE2

Repl. by BARTELT 99

20 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

21 FULTON 91 assumes equal production of $B^0 \bar{B}^0$ and $B^+ B^-$ at the $\gamma(4S)$.

22 ATHANAS 97 uses missing energy and missing momentum to reconstruct neutrino.

$\Gamma(\bar{D}^*(2007)^0 \ell^+ \nu_\ell)/\Gamma_{\text{total}}$

$\ell = e$ or μ , not sum over e and μ modes.

VALUE

0.065 ± 0.005 OUR AVERAGE

EVTS

DOCUMENT ID

TECN

COMMENT

Γ_4/Γ

$e^+ e^- \rightarrow \gamma(4S)$

0.0650 ± 0.0020 ± 0.0043

23 ADAM

03 CLE2

$e^+ e^- \rightarrow \gamma(4S)$

0.066 ± 0.016 ± 0.015

24 ALBRECHT

92c ARG

$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.0650 ± 0.0020 ± 0.0043

25 BRIERE

02 CLE2

$e^+ e^- \rightarrow \gamma(4S)$

0.0513 ± 0.0054 ± 0.0064

26 BARISH

95 CLE2

Repl. by ADAM 03

seen

398 SANGHERA

93 CLE2

$e^+ e^- \rightarrow \gamma(4S)$

0.041 ± 0.008 + 0.008
- 0.009

28 FULTON

91 CLEO

$e^+ e^- \rightarrow \gamma(4S)$

0.070 ± 0.018 ± 0.014

29 ANTREASYAN

90B CBAL

$e^+ e^- \rightarrow \gamma(4S)$

²³ Simultaneous measurements of both $B^0 \rightarrow D^*(2010)^-\ell\nu$ and $B^+ \rightarrow \bar{D}(2007)^0\ell\nu$.

²⁴ ALBRECHT 92C reports $0.058 \pm 0.014 \pm 0.013$. We rescale using the method described in STONE 94 but with the updated PDG 94 B($D^0 \rightarrow K^-\pi^+$). Assumes equal production of $B^0\bar{B}^0$ and B^+B^- at the $\Upsilon(4S)$.

²⁵ The results are based on the same analysis and data sample reported in ADAM 03.

²⁶ BARISH 95 use $B(D^0 \rightarrow K^-\pi^+) = (3.91 \pm 0.08 \pm 0.17)\%$ and $B(D^{*0} \rightarrow D^0\pi^0) = (63.6 \pm 2.3 \pm 3.3)\%$.

²⁷ Combining $\bar{D}^{*0}\ell^+\nu_\ell$ and $\bar{D}^{*-}\ell^+\nu_\ell$ SANGHERA 93 test $V-A$ structure and fit the decay angular distributions to obtain $A_{FB} = 3/4(\Gamma^- - \Gamma^+)/\Gamma = 0.14 \pm 0.06 \pm 0.03$. Assuming a value of V_{cb} , they measure V , A_1 , and A_2 , the three form factors for the $D^*\ell\nu_\ell$ decay, where results are slightly dependent on model assumptions.

²⁸ Assumes equal production of $B^0\bar{B}^0$ and B^+B^- at the $\Upsilon(4S)$. Uncorrected for D and D^* branching ratio assumptions.

²⁹ ANTREASYAN 90B is average over B and $\bar{D}^*(2010)$ charge states.

$\Gamma(\bar{D}_1(2420)^0\ell^+\nu_\ell)/\Gamma_{\text{total}}$

VALUE	DOCUMENT ID	TECN	COMMENT	Γ_5/Γ
0.0056 ± 0.0013 ± 0.0009	30 ANASTASSOV 98	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$	

³⁰ ANASTASSOV 98 result is derived from the measurement of $B(B^+ \rightarrow \bar{D}_1^0\ell^+\nu_\ell) \times B(\bar{D}_1^0 \rightarrow D^{*+}\pi^-) = (0.373 \pm 0.085 \pm 0.052 \pm 0.024)\%$ by assuming $B(\bar{D}_1^0 \rightarrow D^{*+}\pi^-) = 67\%$, where the third error includes theoretical uncertainties.

$\Gamma(\bar{D}_2(2460)^0\ell^+\nu_\ell)/\Gamma_{\text{total}}$

VALUE	CL%	DOCUMENT ID	TECN	COMMENT	Γ_6/Γ
$< 8 \times 10^{-3}$	90	31 ANASTASSOV 98	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$	

³¹ ANASTASSOV 98 result is derived from the measurement of $B(B^+ \rightarrow \bar{D}_2^{*0}\ell^+\nu_\ell) \times B(\bar{D}_2^{*0} \rightarrow D^{*+}\pi^-) < 0.16\%$ at 90% CL by assuming $B(\bar{D}_2^{*0} \rightarrow D^{*+}\pi^-) = 20\%$.

$\Gamma(D^-\pi^+\ell^+\nu_\ell)/\Gamma_{\text{total}}$

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT	Γ_7/Γ
5.2 ± 0.9 ± 0.5	32 LIVENTSEV 05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$	

³² LIVENTSEV 05 reports $[B(B^+ \rightarrow D^-\pi^+\ell^+\nu_\ell) / B(B^0 \rightarrow D^-\ell^+\nu_\ell)] = 0.25 \pm 0.03 \pm 0.03$. We multiply by our best value $B(B^0 \rightarrow D^-\ell^+\nu_\ell) = (2.08 \pm 0.18) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(D^{*-}\pi^+\ell^+\nu_\ell)/\Gamma_{\text{total}}$

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT	Γ_8/Γ
6.3 ± 1.5 ± 0.2	33,34 LIVENTSEV 05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$	

³³ Excludes D^{*+} contribution to $D\pi$ modes.

³⁴ LIVENTSEV 05 reports $[B(B^+ \rightarrow D^{*-}\pi^+\ell^+\nu_\ell) / B(B^0 \rightarrow D^*(2010)^-\ell^+\nu_\ell)] = 0.12 \pm 0.02 \pm 0.02$. We multiply by our best value $B(B^0 \rightarrow D^*(2010)^-\ell^+\nu_\ell) = (5.29 \pm 0.19) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\pi^0 \ell^+ \nu_\ell)/\Gamma_{\text{total}}$

Γ_9/Γ

"OUR EVALUATION" is an average using rescaled values of the data listed below. The average and rescaling were performed by the Heavy Flavor Averaging Group (HFAG) and are described at <http://www.slac.stanford.edu/xorg/hfag/>. The averaging/rescaling procedure takes into account correlations between the measurements.

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
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0.77±0.10±0.07 OUR EVALUATION

0.75±0.09 OUR AVERAGE

$0.77 \pm 0.14 \pm 0.08$	35 HOKUEE	07 BELL	$e^+ e^- \rightarrow \gamma(4S)$
$0.74 \pm 0.05 \pm 0.10$	36 AUBERT,B	050 BABR	$e^+ e^- \rightarrow \gamma(4S)$

35 The signal events are tagged by a second B meson reconstructed in the semileptonic mode $B \rightarrow D^{(*)} \ell \nu_\ell$.

36 B^+ and B^0 decays combined assuming isospin symmetry. Systematic errors include both experimental and form-factor uncertainties.

$\Gamma(\pi^0 e^+ \nu_e)/\Gamma_{\text{total}}$

Γ_{10}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

$0.9 \pm 0.2 \pm 0.2$	37 ALEXANDER	96T CLE2	$e^+ e^- \rightarrow \gamma(4S)$
<22	90	ANTREASYAN 90B CBAL	$e^+ e^- \rightarrow \gamma(4S)$

37 Derived based in the reported B^0 result by assuming isospin symmetry: $\Gamma(B^0 \rightarrow \pi^- \ell^+ \nu) = 2\Gamma(B^+ \rightarrow \pi^0 \ell^+ \nu)$.

$\Gamma(\eta \ell^+ \nu_\ell)/\Gamma_{\text{total}}$

Γ_{11}/Γ

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
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0.84±0.31±0.18	38 ATHAR	03 CLE2	$e^+ e^- \rightarrow \gamma(4S)$
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38 ATHAR 03 reports systematic errors 0.16 ± 0.09 , which are experimental systematic and systematic due to model dependence. We combine these in quadrature.

$\Gamma(\omega \ell^+ \nu_\ell)/\Gamma_{\text{total}}$

Γ_{12}/Γ

$\ell = e$ or μ , not sum over e and μ modes.

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
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1.3±0.4±0.4	39 SCHWANDA	04 BELL	$e^+ e^- \rightarrow \gamma(4S)$
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• • • We do not use the following data for averages, fits, limits, etc. • • •

<2.1	90	40 BEAN	93B CLE2	$e^+ e^- \rightarrow \gamma(4S)$
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39 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

40 BEAN 93B limit set using ISGW Model. Using isospin and the quark model to combine $\Gamma(\rho^0 \ell^+ \nu_\ell)$ and $\Gamma(\rho^- \ell^+ \nu_\ell)$ with this result, they obtain a limit $<(1.6-2.7) \times 10^{-4}$ at 90% CL for $B^+ \rightarrow \omega \ell^+ \nu_\ell$. The range corresponds to the ISGW, WSB, and KS models. An upper limit on $|V_{ub}/V_{cb}| < 0.8-0.13$ at 90% CL is derived as well.

$\Gamma(\omega \mu^+ \nu_\mu)/\Gamma_{\text{total}}$

Γ_{13}/Γ

VALUE	DOCUMENT ID	TECN
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• • • We do not use the following data for averages, fits, limits, etc. • • •

seen	41 ALBRECHT	91C ARG
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41 In ALBRECHT 91C, one event is fully reconstructed providing evidence for the $b \rightarrow u$ transition.

$\Gamma(\rho^0 \ell^+ \nu_\ell)/\Gamma_{\text{total}}$

$\ell = e$ or μ , not sum over e and μ modes.

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
1.28 ± 0.18 OUR AVERAGE				
1.33 ± 0.23 ± 0.18	42	HOKUUE	07	BELL $e^+ e^- \rightarrow \gamma(4S)$
1.16 ± 0.11 ± 0.30	43	AUBERT,B	050	BABR $e^+ e^- \rightarrow \gamma(4S)$
1.34 ± 0.15 $^{+0.28}_{-0.32}$	44	BEHRENS	00	CLE2 $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

1.40 ± 0.21 $^{+0.32}_{-0.33}$	44	BEHRENS	00	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
1.2 ± 0.2 $^{+0.3}_{-0.4}$	44	ALEXANDER	96T	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
<2.1	90	BEAN	93B	CLE2 $e^+ e^- \rightarrow \gamma(4S)$

42 The signal events are tagged by a second B meson reconstructed in the semileptonic mode $B \rightarrow D^{(*)} \ell \nu_\ell$.

43 B^+ and B^0 decays combined assuming isospin symmetry. Systematic errors include both experimental and form-factor uncertainties.

44 Derived based in the reported B^0 result by assuming isospin symmetry: $\Gamma(B^0 \rightarrow \rho^- \ell^+ \nu) = 2\Gamma(B^+ \rightarrow \rho^0 \ell^+ \nu) \approx 2\Gamma(B^+ \rightarrow \omega \ell^+ \nu)$.

45 BEAN 93B limit set using ISGW Model. Using isospin and the quark model to combine $\Gamma(\omega^0 \ell^+ \nu_\ell)$ and $\Gamma(\rho^- \ell^+ \nu_\ell)$ with this result, they obtain a limit $<(1.6\text{--}2.7) \times 10^{-4}$ at 90% CL for $B^+ \rightarrow \rho^0 \ell^+ \nu_\ell$. The range corresponds to the ISGW, WSB, and KS models. An upper limit on $|V_{ub}/V_{cb}| < 0.8\text{--}0.13$ at 90% CL is derived as well.

$\Gamma(p\bar{p}e^+\nu_e)/\Gamma_{\text{total}}$

Γ_{15}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$< 5.2 \times 10^{-3}$	90	46 ADAM	03B	CLE2 $e^+ e^- \rightarrow \gamma(4S)$

46 Based on phase-space model; if $V-A$ model is used, the 90% CL upper limit becomes $< 1.2 \times 10^{-3}$.

$\Gamma(e^+\nu_e)/\Gamma_{\text{total}}$

Γ_{16}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
< 9.8	90	47 SATOYAMA	07	BELL $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<15	90	ARTUSO	95	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
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47 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\mu^+\nu_\mu)/\Gamma_{\text{total}}$

Γ_{17}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
< 1.7	90	48 SATOYAMA	07	BELL $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

< 6.6	90	AUBERT	040	BABR $e^+ e^- \rightarrow \gamma(4S)$
<21	90	ARTUSO	95	CLE2 $e^+ e^- \rightarrow \gamma(4S)$

48 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\tau^+ \nu_\tau)/\Gamma_{\text{total}}$

Γ_{18}/Γ

<u>VALUE</u> (units 10^{-4})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
$1.79^{+0.56+0.46}_{-0.49-0.51}$		49 IKADO	06	BELL $e^+ e^- \rightarrow \gamma(4S)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 2.6	90	49 AUBERT	06K	BABR $e^+ e^- \rightarrow \gamma(4S)$	
< 4.2	90	49 AUBERT,B	05B	BABR Repl. by AUBERT 06K	
< 8.3	90	50 BARATE	01E	ALEP $e^+ e^- \rightarrow Z$	
< 8.4	90	49 BROWDER	01	CLE2 $e^+ e^- \rightarrow \gamma(4S)$	
< 5.7	90	51 ACCIARRI	97F	L3 $e^+ e^- \rightarrow Z$	
< 104	90	52 ALBRECHT	95D	ARG $e^+ e^- \rightarrow \gamma(4S)$	
< 22	90	ARTUSO	95	CLE2 $e^+ e^- \rightarrow \gamma(4S)$	
< 18	90	53 BUSKULIC	95	ALEP $e^+ e^- \rightarrow Z$	

49 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

50 The energy-flow and b -tagging algorithms were used.

51 ACCIARRI 97F uses missing-energy technique and $f(b \rightarrow B^-) = (38.2 \pm 2.5)\%$.

52 ALBRECHT 95D use full reconstruction of one B decay as tag.

53 BUSKULIC 95 uses same missing-energy technique as in $\bar{B} \rightarrow \tau^+ \nu_\tau X$, but analysis is restricted to endpoint region of missing-energy distribution.

$\Gamma(e^+ \nu_e \gamma)/\Gamma_{\text{total}}$

Γ_{19}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
$<2.0 \times 10^{-4}$	90	54 BROWDER	97	CLE2 $e^+ e^- \rightarrow \gamma(4S)$	

54 BROWDER 97 uses the hermiticity of the CLEO II detector to reconstruct the neutrino energy and momentum.

$\Gamma(\mu^+ \nu_\mu \gamma)/\Gamma_{\text{total}}$

Γ_{20}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
$<5.2 \times 10^{-5}$	90	55 BROWDER	97	CLE2 $e^+ e^- \rightarrow \gamma(4S)$	

55 BROWDER 97 uses the hermiticity of the CLEO II detector to reconstruct the neutrino energy and momentum.

$\Gamma(D^0 X)/\Gamma_{\text{total}}$

Γ_{21}/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
$0.086 \pm 0.006 \pm 0.004$	56 AUBERT	07N	BABR $e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.098 $\pm 0.009 \pm 0.006$ 56 AUBERT,BE 04B BABR Repl. by AUBERT 07N

56 Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties.

$\Gamma(\bar{D}^0 X)/\Gamma_{\text{total}}$

Γ_{22}/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
$0.786 \pm 0.016 \pm 0.034$	57 AUBERT	07N	BABR $e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.793 $\pm 0.025 \pm 0.045$ 57 AUBERT,BE 04B BABR Repl. by AUBERT 07N

57 Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties.

$\Gamma(D^0 X)/[\Gamma(D^0 X) + \Gamma(\bar{D}^0 X)]$ $\Gamma_{21}/(\Gamma_{21}+\Gamma_{22})$

VALUE	DOCUMENT ID	TECN	COMMENT	
0.098±0.007±0.001	AUBERT 07N	BABR	$e^+ e^- \rightarrow \gamma(4S)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.110±0.010±0.003	AUBERT,BE 04B	BABR	Repl. by AUBERT 07N	

$\Gamma(D^+ X)/\Gamma_{\text{total}}$ Γ_{23}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT	
0.025±0.005±0.002	58 AUBERT 07N	BABR	$e^+ e^- \rightarrow \gamma(4S)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.038±0.009±0.005	58 AUBERT,BE 04B	BABR	Repl. by AUBERT 07N	
58 Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties.				

$\Gamma(D^- X)/\Gamma_{\text{total}}$ Γ_{24}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT	
0.099±0.008±0.009	59 AUBERT 07N	BABR	$e^+ e^- \rightarrow \gamma(4S)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.098±0.012±0.014	59 AUBERT,BE 04B	BABR	Repl. by AUBERT 07N	
59 Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties.				

$\Gamma(D^+ X)/[\Gamma(D^+ X) + \Gamma(D^- X)]$ $\Gamma_{23}/(\Gamma_{23}+\Gamma_{24})$

VALUE	DOCUMENT ID	TECN	COMMENT	
0.204±0.035±0.001	AUBERT 07N	BABR	$e^+ e^- \rightarrow \gamma(4S)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.278±0.052±0.009	AUBERT,BE 04B	BABR	Repl. by AUBERT 07N	

$\Gamma(D_s^+ X)/\Gamma_{\text{total}}$ Γ_{25}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT	
0.079±0.006^{+0.013}_{-0.011}	60 AUBERT 07N	BABR	$e^+ e^- \rightarrow \gamma(4S)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.143±0.016 ^{+0.051} _{-0.034}	60 AUBERT,BE 04B	BABR	Repl. by AUBERT 07N	
60 Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties.				

$\Gamma(D_s^- X)/\Gamma_{\text{total}}$ Γ_{26}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
0.011^{+0.004}_{-0.003} ^{+0.002}_{-0.001}		61 AUBERT 07N	BABR	$e^+ e^- \rightarrow \gamma(4S)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.022	90	61 AUBERT,BE 04B	BABR	Repl. by AUBERT 07N	
61 Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties.					

$\Gamma(D_s^+ X)/[\Gamma(D_s^+ X) + \Gamma(D_s^- X)]$ $\Gamma_{25}/(\Gamma_{25}+\Gamma_{26})$

VALUE	DOCUMENT ID	TECN	COMMENT
0.884±0.038±0.002	AUBERT 07N	BABR	$e^+ e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$			
0.966±0.039±0.012	AUBERT,BE 04B	BABR	Repl. by AUBERT 07N

$\Gamma(D_s^- X)/[\Gamma(D_s^+ X) + \Gamma(D_s^- X)]$ $\Gamma_{26}/(\Gamma_{25}+\Gamma_{26})$

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.126	90	AUBERT,BE 04B	BABR	$e^+ e^- \rightarrow \gamma(4S)$

$\Gamma(\Lambda_c^+ X)/\Gamma_{\text{total}}$ Γ_{27}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.021±0.005^{+0.008}_{-0.004}	62 AUBERT 07N	BABR	$e^+ e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$			
0.029±0.008 ^{+0.011} _{-0.007}	62 AUBERT,BE 04B	BABR	Repl. by AUBERT 07N

62 Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties.

$\Gamma(\bar{\Lambda}_c^- X)/\Gamma_{\text{total}}$ Γ_{28}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.028±0.005^{+0.010}_{-0.007}	63 AUBERT 07N	BABR	$e^+ e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$			
0.035±0.008 ^{+0.013} _{-0.009}	63 AUBERT,BE 04B	BABR	Repl. by AUBERT 07N

63 Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties.

$\Gamma(\Lambda_c^+ X)/[\Gamma(\Lambda_c^+ X) + \Gamma(\bar{\Lambda}_c^- X)]$ $\Gamma_{27}/(\Gamma_{27}+\Gamma_{28})$

VALUE	DOCUMENT ID	TECN	COMMENT
0.427±0.071±0.001	AUBERT 07N	BABR	$e^+ e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$			
0.452±0.090±0.003	AUBERT,BE 04B	BABR	Repl. by AUBERT 07N

$\Gamma(\bar{c}X)/\Gamma_{\text{total}}$ Γ_{29}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.968±0.019^{+0.041}_{-0.039}	64 AUBERT 07N	BABR	$e^+ e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$			
0.983±0.030 ^{+0.054} _{-0.051}	64 AUBERT,BE 04B	BABR	Repl. by AUBERT 07N

64 Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties.

$\Gamma(cX)/\Gamma_{\text{total}}$

VALUE	DOCUMENT ID	TECN	COMMENT	Γ_{30}/Γ
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0.234±0.012^{+0.018}_{-0.014} 65 AUBERT 07N BABR $e^+ e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$0.330\pm 0.022^{+0.055}_{-0.037}$ 65 AUBERT,BE 04B BABR Repl. by AUBERT 07N

65 Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties.

 $\Gamma(\bar{c}cX)/\Gamma_{\text{total}}$

VALUE	DOCUMENT ID	TECN	COMMENT	Γ_{31}/Γ
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1.202±0.023^{+0.053}_{-0.049} 66 AUBERT 07N BABR $e^+ e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$1.313\pm 0.037^{+0.088}_{-0.075}$ 66 AUBERT,BE 04B BABR Repl. by AUBERT 07N

66 Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties.

 $\Gamma(\bar{D}^0\pi^+)/\Gamma_{\text{total}}$

VALUE (units 10^{-3})	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_{32}/Γ
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4.84±0.15 OUR AVERAGE

$4.90\pm 0.07\pm 0.22$ 67 AUBERT 07H BABR $e^+ e^- \rightarrow \Upsilon(4S)$

$5.3 \pm 0.6 \pm 0.3$ 68 ABULENCIA 06J CDF $p\bar{p}$ at 1.96 TeV

$4.49\pm 0.21\pm 0.23$ 69 AUBERT,BE 06J BABR $e^+ e^- \rightarrow \Upsilon(4S)$

$4.97\pm 0.12\pm 0.29$ 67,70 AHMED 02B CLE2 $e^+ e^- \rightarrow \Upsilon(4S)$

$5.0 \pm 0.7 \pm 0.6$ 54 71 BORTOLETTO92 CLEO $e^+ e^- \rightarrow \Upsilon(4S)$

$5.4^{+1.8}_{-1.5}{}^{+1.2}_{-0.9}$ 14 72 BEBEK 87 CLEO $e^+ e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$4.84\pm 0.27\pm 0.09$ 73 AUBERT,B 04P BABR Repl. by AUBERT 07H

$5.5 \pm 0.4 \pm 0.5$ 304 74 ALAM 94 CLE2 Repl. by AHMED 02B

$2.0 \pm 0.8 \pm 0.6$ 12 71 ALBRECHT 90J ARG $e^+ e^- \rightarrow \Upsilon(4S)$

$1.9 \pm 1.0 \pm 0.6$ 7 75 ALBRECHT 88K ARG $e^+ e^- \rightarrow \Upsilon(4S)$

67 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

68 ABULENCIA 06J reports $[B(B^+ \rightarrow \bar{D}^0\pi^+) / B(B^0 \rightarrow D^-\pi^+)] = 1.97 \pm 0.10 \pm 0.21$.

We multiply by our best value $B(B^0 \rightarrow D^-\pi^+) = (2.68 \pm 0.13) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

69 Uses a missing-mass method. Does not depend on D branching fractions or B^+/B^0 production rates.

70 AHMED 02B reports an additional uncertainty on the branching ratios to account for 4.5% uncertainty on relative production of B^0 and B^+ , which is not included here.

71 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses the Mark III branching fractions for the D .

72 BEBEK 87 value has been updated in BERKELMAN 91 to use same assumptions as noted for BORTOLETTO 92.

73 AUBERT,B 04P reports $[B(B^+ \rightarrow \bar{D}^0\pi^+) \times B(D^0 \rightarrow K^-\pi^+)] = (1.846 \pm 0.032 \pm 0.097) \times 10^{-4}$. We divide by our best value $B(D^0 \rightarrow K^-\pi^+) = (3.82 \pm 0.07) \times 10^{-2}$.

Our first error is their experiment's error and our second error is the systematic error from using our best value.

⁷⁴ ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II absolute $B(D^0 \rightarrow K^- \pi^+)$ and the PDG 1992 $B(D^0 \rightarrow K^- \pi^+ \pi^0)/B(D^0 \rightarrow K^- \pi^+)$ and $B(D^0 \rightarrow K^- \pi^+ \pi^+ \pi^-)/B(D^0 \rightarrow K^- \pi^+)$.

⁷⁵ ALBRECHT 88K assumes $B^0 \bar{B}^0 : B^+ B^-$ ratio is 45:55. Superseded by ALBRECHT 90J.

$\Gamma(\bar{D}^0 \rho^+)/\Gamma_{\text{total}}$	Γ_{35}/Γ			
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.0134 ± 0.0018 OUR AVERAGE				
0.0135 ± 0.0012 ± 0.0015	212	76 ALAM	94 CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
0.013 ± 0.004 ± 0.004	19	77 ALBRECHT	90J ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.021 ± 0.008 ± 0.009	10	78 ALBRECHT	88K ARG	$e^+ e^- \rightarrow \Upsilon(4S)$

⁷⁶ ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II absolute $B(D^0 \rightarrow K^- \pi^+)$ and the PDG 1992 $B(D^0 \rightarrow K^- \pi^+ \pi^0)/B(D^0 \rightarrow K^- \pi^+)$ and $B(D^0 \rightarrow K^- \pi^+ \pi^+ \pi^-)/B(D^0 \rightarrow K^- \pi^+)$.

⁷⁷ Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses the Mark III branching fractions for the D .

⁷⁸ ALBRECHT 88K assumes $B^0 \bar{B}^0 : B^+ B^-$ ratio is 45:55.

$\Gamma(\bar{D}^0 K^+)/\Gamma_{\text{total}}$	Γ_{36}/Γ		
<u>VALUE (units 10^{-4})</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
4.02 ± 0.21 OUR AVERAGE			
4.02 ± 0.20 ± 0.13	79 AUBERT	04N BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
4.8 ± 0.8 ± 0.2	80 BORNHEIM	03 CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
3.7 ± 0.4 ± 0.1	81,82 SWAIN	03 BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
4.6 ± 0.6 ± 0.1	81,83 ABE	03D BELL	Repl. by SWAIN 03
4.19 ± 0.57 ± 0.40	84 ABE	01I BELL	Repl. by ABE 03D
2.92 ± 0.80 ± 0.28	85 ATHANAS	98 CLE2	Repl. by BORNHEIM 03

⁷⁹ AUBERT 04N reports $[B(B^+ \rightarrow \bar{D}^0 K^+) / B(B^+ \rightarrow \bar{D}^0 \pi^+)] = (831 \pm 35 \pm 20) \times 10^{-4}$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0 \pi^+) = (4.84 \pm 0.15) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

⁸⁰ BORNHEIM 03 reports $[B(B^+ \rightarrow \bar{D}^0 K^+) / B(B^+ \rightarrow \bar{D}^0 \pi^+)] = (990^{+140+70}_{-120-60}) \times 10^{-4}$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0 \pi^+) = (4.84 \pm 0.15) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

⁸¹ Flavor specific D^0 meson is reconstructed via $D^0 \rightarrow K^- \pi^+$.

⁸² SWAIN 03 reports $[B(B^+ \rightarrow \bar{D}^0 K^+) / B(B^+ \rightarrow \bar{D}^0 \pi^+)] = (770 \pm 50 \pm 60) \times 10^{-4}$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0 \pi^+) = (4.84 \pm 0.15) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

⁸³ ABE 03D reports $[B(B^+ \rightarrow \bar{D}^0 K^+) / B(B^+ \rightarrow \bar{D}^0 \pi^+)] = (940 \pm 90 \pm 70) \times 10^{-4}$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0 \pi^+) = (4.84 \pm 0.15) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

⁸⁴ ABE 01I reports $B(B^+ \rightarrow \bar{D}^0 K^+)/B(B^+ \rightarrow \bar{D}^0 \pi^+) = 0.079 \pm 0.009 \pm 0.006$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0 \pi^+) = (5.3 \pm 0.5) \times 10^{-3}$. Our first error is their experiment's error and the second error is systematic error from using our best value.

⁸⁵ ATHANAS 98 reports $[B(B^+ \rightarrow \bar{D}^0 K^+)/[B(B^+ \rightarrow \bar{D}^0 \pi^+)] = 0.055 \pm 0.014 \pm 0.005$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0 \pi^+) = (5.3 \pm 0.5) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(D_{CP(+1)} K^+)/\Gamma_{\text{total}}$

Γ_{37}/Γ

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
3.6±0.5±0.2	86 AUBERT	06J BABR	$e^+ e^- \rightarrow \gamma(4S)$

⁸⁶ AUBERT 06J reports $[B(B^+ \rightarrow D_{CP(+1)} K^+)/B(B^+ \rightarrow \bar{D}^0 K^+)] = 0.90 \pm 0.12 \pm 0.04$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0 K^+) = (4.02 \pm 0.21) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(D_{CP(-1)} K^+)/\Gamma_{\text{total}}$

Γ_{38}/Γ

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
3.5±0.4±0.2	87 AUBERT	06J BABR	$e^+ e^- \rightarrow \gamma(4S)$

⁸⁷ AUBERT 06J reports $[B(B^+ \rightarrow D_{CP(-1)} K^+)/B(B^+ \rightarrow \bar{D}^0 K^+)] = 0.86 \pm 0.10 \pm 0.05$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0 K^+) = (4.02 \pm 0.21) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(D_{CP(+1)} K^+)/\Gamma(D_{CP(+1)} \pi^+)$

Γ_{37}/Γ_{33}

VALUE	DOCUMENT ID	TECN	COMMENT
0.091±0.012 OUR AVERAGE			

0.094±0.015±0.007	88 ABE	06 BELL	$e^+ e^- \rightarrow \gamma(4S)$
0.088±0.016±0.005	89 AUBERT	04N BABR	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.125±0.036±0.010	89 ABE	03D BELL	Repl. by SWAIN 03
0.093±0.018±0.008	89 SWAIN	03 BELL	Repl. by ABE 06

⁸⁸ Reports a double ratio of $B(B^+ \rightarrow D_{CP(+1)} K^+)/B(B^+ \rightarrow D_{CP(+1)} \pi^+)$ and $B(B^+ \rightarrow \bar{D}^0 K^+)/B(B^+ \rightarrow \bar{D}^0 \pi^+)$, $1.13 \pm 0.16 \pm 0.08$. We multiply by our best value of $B(B^+ \rightarrow \bar{D}^0 K^+)/B(B^+ \rightarrow \bar{D}^0 \pi^+) = 0.083 \pm 0.006$. Our first error is their experiment's error and the second error is systematic error from using our best value.

⁸⁹ $CP=+1$ eigenstate of $D^0 \bar{D}^0$ system is reconstructed via $K^+ K^-$ and $\pi^+ \pi^-$.

$\Gamma(D_{CP(-1)} K^+)/\Gamma(D_{CP(-1)} \pi^+)$

Γ_{38}/Γ_{34}

VALUE	DOCUMENT ID	TECN	COMMENT
0.097±0.016±0.007	90 ABE	06 BELL	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.119±0.028±0.006	91 ABE	03D BELL	Repl. by SWAIN 03
0.108±0.019±0.007	91 SWAIN	03 BELL	Repl. by ABE 06

- 90 Reports a double ratio of $B(B^+ \rightarrow D_{CP(-1)} K^+)/B(B^+ \rightarrow D_{CP(-1)} \pi^+)$ and $B(B^+ \rightarrow \bar{D}^0 K^+)/B(B^+ \rightarrow \bar{D}^0 \pi^+)$, $1.17 \pm 0.14 \pm 0.14$. We multiply by our best value of $B(B^+ \rightarrow \bar{D}^0 K^+)/B(B^+ \rightarrow \bar{D}^0 \pi^+) = 0.083 \pm 0.006$. Our first error is their experiment's error and the second error is systematic error from using our best value.
- 91 $CP=-1$ eigenstate of $D^0 \bar{D}^0$ system is reconstructed via $K_S^0 \pi^0$, $K_S^0 \omega$, $K_S^0 \phi$, $K_S^0 \eta$, and $K_S^0 \eta'$.

 $\Gamma([K^- \pi^+]_D K^+)/\Gamma([K^+ \pi^-]_D K^+)$ Γ_{39}/Γ_{40}

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.029	90	92 AUBERT	05G BABR	$e^+ e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
<0.044	90	93 SAIGO	05 BELL	$e^+ e^- \rightarrow \gamma(4S)$
<0.026	90	94 AUBERT,B	04L BABR	Repl. by AUBERT 05G

92 AUBERT 05G extract a constraint on the magnitude of the ratio of amplitudes $|A(B^+ \rightarrow D^0 K^+)/A(B^+ \rightarrow \bar{D}^0 K^+)| < 0.23$ at 90% CL (Bayesian). Similar measurements from $B^+ \rightarrow D^{*0} K^+$ are also reported.

93 SAIGO 05 extract a constraint on the magnitude of the ratio of amplitudes $|A(B^+ \rightarrow D^0 K^+)/A(B^+ \rightarrow \bar{D}^0 K^+)| < 0.27$ at 90% CL.

94 AUBERT,B 04L extract a constraint on the magnitude of the ratio of amplitudes $|A(B^+ \rightarrow D^0 K^+)/A(B^+ \rightarrow \bar{D}^0 K^+)| < 0.22$ at 90% CL.

 $\Gamma([K^- \pi^+]_D K^*(892)^+)/\Gamma([K^+ \pi^-]_D K^*(892)^+)$ Γ_{41}/Γ_{42}

VALUE	DOCUMENT ID	TECN	COMMENT
0.046 ± 0.031 ± 0.008	AUBERT,B	05V BABR	$e^+ e^- \rightarrow \gamma(4S)$

 $\Gamma([K^- \pi^+]_D \pi^+)/\Gamma_{\text{total}}$ Γ_{43}/Γ

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
1.73^{+0.51}_{-0.46} ± 0.03	95 SAIGO	05 BELL	$e^+ e^- \rightarrow \gamma(4S)$

95 SAIGO 05 reports $[B(B^+ \rightarrow [K^- \pi^+]_D \pi^+) \times B(D^0 \rightarrow K^- \pi^+)] = (6.6^{+1.9}_{-1.7} \pm 0.5) \times 10^{-7}$. We divide by our best value $B(D^0 \rightarrow K^- \pi^+) = (3.82 \pm 0.07) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

 $\Gamma([\pi^+ \pi^- \pi^0]_D K^-)/\Gamma_{\text{total}}$ Γ_{44}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
5.5^{+1.0}_{-1.0} ± 0.7	96 AUBERT,B	05T BABR	$e^+ e^- \rightarrow \gamma(4S)$

96 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma([K^- \pi^+]_D \pi^+)/\Gamma(\bar{D}^0 \pi^+)$ Γ_{43}/Γ_{32}

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
3.5^{+1.0}_{-0.9} ± 0.2	SAIGO	05 BELL	$e^+ e^- \rightarrow \gamma(4S)$

$\Gamma(\bar{D}^0 K^*(892)^+)/\Gamma_{\text{total}}$

Γ_{45}/Γ

VALUE (units 10^{-4})

5.3 ± 0.4 OUR AVERAGE

$5.29 \pm 0.30 \pm 0.34$

$6.1 \pm 1.6 \pm 1.7$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$6.3 \pm 0.7 \pm 0.5$

DOCUMENT ID

TECN

COMMENT

97 AUBERT 06Z BABR $e^+ e^- \rightarrow \gamma(4S)$

97 MAHAPATRA 02 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

97 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.



$\Gamma(D_{CP(-1)} K^*(892)^+)/\Gamma_{\text{total}}$

Γ_{46}/Γ

VALUE (units 10^{-4})

1.7 ± 0.7 ± 0.1

DOCUMENT ID

TECN

COMMENT

98 AUBERT,B 05U BABR $e^+ e^- \rightarrow \gamma(4S)$

98 AUBERT,B 05U reports $[B(B^+ \rightarrow D_{CP(-1)} K^*(892)^+) / B(B^+ \rightarrow \bar{D}^0 K^*(892)^+)] = 0.325 \pm 0.13 \pm 0.04$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0 K^*(892)^+) = (5.3 \pm 0.4) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(D_{CP(+1)} K^*(892)^+)/\Gamma_{\text{total}}$

Γ_{47}/Γ

VALUE (units 10^{-4})

5.2 ± 1.1 ± 0.4

DOCUMENT ID

TECN

COMMENT

99 AUBERT,B 05U BABR $e^+ e^- \rightarrow \gamma(4S)$

99 AUBERT,B 05U reports $[B(B^+ \rightarrow D_{CP(+1)} K^*(892)^+) / B(B^+ \rightarrow \bar{D}^0 K^*(892)^+)] = 0.98 \pm 0.20 \pm 0.055$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0 K^*(892)^+) = (5.3 \pm 0.4) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\bar{D}^0 K^+ \bar{K}^0)/\Gamma_{\text{total}}$

Γ_{48}/Γ

VALUE (units 10^{-4})

5.5 ± 1.4 ± 0.8

DOCUMENT ID

TECN

COMMENT

100 DRUTSKOY 02 BELL $e^+ e^- \rightarrow \gamma(4S)$

100 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\bar{D}^0 K^+ \bar{K}^*(892)^0)/\Gamma_{\text{total}}$

Γ_{49}/Γ

VALUE (units 10^{-4})

7.5 ± 1.3 ± 1.1

DOCUMENT ID

TECN

COMMENT

101 DRUTSKOY 02 BELL $e^+ e^- \rightarrow \gamma(4S)$

101 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\bar{D}^0 \pi^+ \pi^+ \pi^-)/\Gamma_{\text{total}}$

Γ_{50}/Γ

VALUE

DOCUMENT ID

TECN

COMMENT

0.0115 ± 0.0029 ± 0.0021

102 BORTOLETTO92 CLEO $e^+ e^- \rightarrow \gamma(4S)$

102 BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and uses Mark III branching fractions for the D .

$\Gamma(\bar{D}^0 \pi^+ \pi^+ \pi^- \text{ nonresonant})/\Gamma_{\text{total}}$

Γ_{51}/Γ

VALUE

DOCUMENT ID

TECN

COMMENT

0.0051 ± 0.0034 ± 0.0023

103 BORTOLETTO92 CLEO $e^+ e^- \rightarrow \gamma(4S)$

103 BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and uses Mark III branching fractions for the D .

$\Gamma(\overline{D}^0\pi^+\rho^0)/\Gamma_{\text{total}}$ Γ_{52}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0042±0.0023±0.0020	104 BORTOLETTO92	CLEO	$e^+e^- \rightarrow \gamma(4S)$
104 BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and uses Mark III branching fractions for the D .			

 $\Gamma(\overline{D}^0a_1(1260)^+)/\Gamma_{\text{total}}$ Γ_{53}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0045±0.0019±0.0031	105 BORTOLETTO92	CLEO	$e^+e^- \rightarrow \gamma(4S)$
105 BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and uses Mark III branching fractions for the D .			

 $\Gamma(\overline{D}^0\omega\pi^+)/\Gamma_{\text{total}}$ Γ_{54}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0041±0.0007±0.0006	106 ALEXANDER 01B	CLE2	$e^+e^- \rightarrow \gamma(4S)$
106 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. The signal is consistent with all observed $\omega\pi^+$ having proceeded through the ρ'^+ resonance at mass $1349 \pm 25^{+10}_{-5}$ MeV and width $547 \pm 86^{+46}_{-45}$ MeV.			

 $\Gamma(D^*(2010)^-\pi^+\pi^+)/\Gamma_{\text{total}}$ Γ_{55}/Γ

VALUE (units 10^{-3})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
1.35±0.22 OUR AVERAGE					
1.25±0.08±0.22			107 ABE	04D BELL	$e^+e^- \rightarrow \gamma(4S)$
1.9 ± 0.7 ± 0.3	14	108 ALAM	94 CLE2	$e^+e^- \rightarrow \gamma(4S)$	
2.6 ± 1.4 ± 0.7	11	109 ALBRECHT	90J ARG	$e^+e^- \rightarrow \gamma(4S)$	
2.4 $^{+1.7}_{-1.6}$ $^{+1.0}_{-0.6}$	3	110 BEBEK	87 CLEO	$e^+e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

<4.	90	111 BORTOLETTO92	CLEO	$e^+e^- \rightarrow \gamma(4S)$
5. ± 2. ± 3.	7	112 ALBRECHT	87C ARG	$e^+e^- \rightarrow \gamma(4S)$

107 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

108 ALAM 94 assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the CLEO II $B(D^*(2010)^+ \rightarrow D^0\pi^+)$ and absolute $B(D^0 \rightarrow K^-\pi^+)$ and the PDG 1992 $B(D^0 \rightarrow K^-\pi^+\pi^0)/B(D^0 \rightarrow K^-\pi^+)$ and $B(D^0 \rightarrow K^-\pi^+\pi^+\pi^-)/B(D^0 \rightarrow K^-\pi^+)$.

109 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and uses the Mark III branching fractions for the D .

110 BEBEK 87 value has been updated in BERKELMAN 91 to use same assumptions as noted for BORTOLETTO 92.

111 BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and uses Mark III branching fractions for the D and $D^*(2010)$. The authors also find the product branching fraction into $D^{**}\pi$ followed by $D^{**} \rightarrow D^*(2010)\pi$ to be $0.0014^{+0.0008}_{-0.0006} \pm 0.0003$ where D^{**} represents all orbitally excited D mesons.

112 ALBRECHT 87C use PDG 86 branching ratios for D and $D^*(2010)$ and assume $B(\gamma(4S) \rightarrow B^+B^-) = 55\%$ and $B(\gamma(4S) \rightarrow B^0\bar{B}^0) = 45\%$. Superseded by ALBRECHT 90J.

$\Gamma(D^-\pi^+\pi^+)/\Gamma_{\text{total}}$ Γ_{56}/Γ

<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.02±0.04±0.15			113 ABE	04D BELL	$e^+e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<1.4 90 114 ALAM 94 CLE2 $e^+e^- \rightarrow \gamma(4S)$

<7 90 115 BORTOLETTO92 CLEO $e^+e^- \rightarrow \gamma(4S)$

2.5 $+4.1$ -2.3 $+2.4$ -0.8 1 116 BEBEK 87 CLEO $e^+e^- \rightarrow \gamma(4S)$

113 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

114 ALAM 94 assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the Mark III $B(D^+ \rightarrow K^-\pi^+\pi^+)$.

115 BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and uses Mark III branching fractions for the D . The product branching fraction into $D_0^*(2340)\pi$ followed by $D_0^*(2340) \rightarrow D\pi$ is < 0.005 at 90%CL and into $D_2^*(2460)$ followed by $D_2^*(2460) \rightarrow D\pi$ is < 0.004 at 90%CL.

116 BEBEK 87 assume the $\gamma(4S)$ decays 43% to $B^0\bar{B}^0$. $B(D^- \rightarrow K^+\pi^-\pi^-) = (9.1 \pm 1.3 \pm 0.4)\%$ is assumed.

 $\Gamma(D^+K^0)/\Gamma_{\text{total}}$ Γ_{57}/Γ

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<5.0	90	117 AUBERT,B	05E BABR	$e^+e^- \rightarrow \gamma(4S)$

117 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(\bar{D}^*(2007)^0\pi^+)/\Gamma_{\text{total}}$ Γ_{58}/Γ

<u>VALUE (units 10^{-3})</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
5.19±0.26 OUR AVERAGE				

5.52±0.17±0.42 118 AUBERT 07H BABR $e^+e^- \rightarrow \gamma(4S)$

5.5 ± 0.4 ± 0.2 119,120 AUBERT,BE 06J BABR $e^+e^- \rightarrow \gamma(4S)$

4.34±0.47±0.18 121 BRANDENB... 98 CLE2 $e^+e^- \rightarrow \gamma(4S)$

5.2 ± 0.7 ± 0.7 71 122 ALAM 94 CLE2 $e^+e^- \rightarrow \gamma(4S)$

7.2 ± 1.8 ± 1.6 123 BORTOLETTO92 CLEO $e^+e^- \rightarrow \gamma(4S)$

4.0 ± 1.4 ± 1.2 9 123 ALBRECHT 90J ARG $e^+e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

2.7 ± 4.4 124 BEBEK 87 CLEO $e^+e^- \rightarrow \gamma(4S)$

118 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

119 AUBERT,BE 06J reports $[B(B^+ \rightarrow \bar{D}^*(2007)^0\pi^+) / B(B^+ \rightarrow \bar{D}^0\pi^+)] = 1.14 \pm 0.07 \pm 0.04$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0\pi^+) = (4.84 \pm 0.15) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

120 Uses a missing-mass method. Does not depend on D branching fractions or B^+/B^0 production rates.

121 BRANDENBURG 98 assume equal production of B^+ and B^0 at $\gamma(4S)$ and use the D^* reconstruction technique. The first error is their experiment's error and the second error is the systematic error from the PDG 96 value of $B(D^* \rightarrow D\pi)$.

122 ALAM 94 assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the CLEO II $B(D^*(2007)^0 \rightarrow D^0\pi^0)$ and absolute $B(D^0 \rightarrow K^-\pi^+)$ and the PDG 1992 $B(D^0 \rightarrow K^-\pi^+\pi^0)/B(D^0 \rightarrow K^-\pi^+\pi^+)$ and $B(D^0 \rightarrow K^-\pi^+\pi^+\pi^-)/B(D^0 \rightarrow K^-\pi^+)$.

¹²³ Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D and $D^*(2010)$.

¹²⁴ This is a derived branching ratio, using the inclusive pion spectrum and other two-body B decays. BEBEK 87 assume the $\Upsilon(4S)$ decays 43% to $B^0 \bar{B}^0$.

$\Gamma(\overline{D}^*(2007)^0 \omega \pi^+)/\Gamma_{\text{total}}$ Γ_{61}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0045±0.0010±0.0007	125 ALEXANDER	01B CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

¹²⁵ Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. The signal is consistent with all observed $\omega \pi^+$ having proceeded through the ρ'^+ resonance at mass $1349 \pm 25^{+10}_{-5}$ MeV and width $547 \pm 86^{+46}_{-45}$ MeV.

$\Gamma(\overline{D}^*(2007)^0 \rho^+)/\Gamma_{\text{total}}$ Γ_{62}/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.0098±0.0017 OUR AVERAGE				
0.0098±0.0006±0.0017		126 CSORNA	03 CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
0.010 ± 0.006 ± 0.004	7	127 ALBRECHT	90J ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.0168±0.0021±0.0028	86	128 ALAM	94 CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

¹²⁶ Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$ resonance. The second error combines the systematic and theoretical uncertainties in quadrature. CSORNA 03 includes data used in ALAM 94. A full angular fit to three complex helicity amplitudes is performed.

¹²⁷ Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D and $D^*(2010)$.

¹²⁸ ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II $B(D^*(2007)^0 \rightarrow D^0 \pi^0)$ and absolute $B(D^0 \rightarrow K^- \pi^+)$ and the PDG 1992 $B(D^0 \rightarrow K^- \pi^+ \pi^0)/B(D^0 \rightarrow K^- \pi^+)$ and $B(D^0 \rightarrow K^- \pi^+ \pi^+ \pi^-)/B(D^0 \rightarrow K^- \pi^+)$. The nonresonant $\pi^+ \pi^0$ contribution under the ρ^+ is negligible.

$\Gamma(\overline{D}^*(2007)^0 K^+)/\Gamma_{\text{total}}$ Γ_{63}/Γ

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
4.16±0.33 OUR AVERAGE			

4.22^{+0.30}_{-0.26} ± 0.21 129 AUBERT 05N BABR $e^+ e^- \rightarrow \Upsilon(4S)$
 3.59 ± 0.97 ± 0.31 130 ABE 01I BELL $e^+ e^- \rightarrow \Upsilon(4S)$
¹²⁹ AUBERT 05N reports $[B(B^+ \rightarrow \overline{D}^*(2007)^0 K^+) / B(B^+ \rightarrow \overline{D}^*(2007)^0 \pi^+)] = 0.0813 \pm 0.0040^{+0.0042}_{-0.0031}$. We multiply by our best value $B(B^+ \rightarrow \overline{D}^*(2007)^0 \pi^+) = (5.19 \pm 0.26) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

¹³⁰ ABE 01I reports $B(B^+ \rightarrow \overline{D}^*(2007)^0 K^+)/B(B^+ \rightarrow \overline{D}^*(2007)^0 \pi^+) = 0.078 \pm 0.019 \pm 0.009$. We multiply by our best value $B(B^+ \rightarrow \overline{D}^*(2007)^0 \pi^+) = (4.6 \pm 0.4) \times 10^{-3}$. Our first error is their experiment's error and the second error is systematic error from using our best value.

$\Gamma(\overline{D}_{CP(+1)}^{*0} K^+)/\Gamma(\overline{D}_{CP(+1)}^{*0} \pi^+)$ Γ_{64}/Γ_{59}

VALUE	DOCUMENT ID	TECN	COMMENT
0.095±0.017 OUR AVERAGE			
0.11 ± 0.02 ± 0.02	131 ABE	06 BELL	$e^+ e^- \rightarrow \gamma(4S)$
0.086 ± 0.021 ± 0.007	132 AUBERT	05N BABR	$e^+ e^- \rightarrow \gamma(4S)$
131 Reports a double ratio of $B(B^+ \rightarrow (\overline{D}_{CP(+1)}^{*0} K^+)/B(B^+ \rightarrow (\overline{D}_{CP(+1)}^{*0} \pi^+))$ and $B(B^+ \rightarrow \overline{D}^{*0} K^+)/B(B^+ \rightarrow \overline{D}^{*0} \pi^+)$, $1.41 \pm 0.25 \pm 0.06$. We multiply by our best value of $B(B^+ \rightarrow \overline{D}^{*0} K^+)/B(B^+ \rightarrow \overline{D}^{*0} \pi^+) = 0.080 \pm 0.011$. Our first error is their experiment's error and the second error is systematic error from using our best value.			
132 Uses $D^{*0} \rightarrow D^0 \pi^0$ with D^0 reconstructed in the CP -even eigenstates $K^+ K^-$ and $\pi^+ \pi^-$.			

 $\Gamma(\overline{D}_{CP(-1)}^{*0} K^+)/\Gamma(D_{CP(-1)}^{*0} \pi^+)$ Γ_{65}/Γ_{60}

VALUE	DOCUMENT ID	TECN	COMMENT
0.09±0.03 ±0.01			
133 ABE	06 BELL	$e^+ e^- \rightarrow \gamma(4S)$	
133 Reports a double ratio of $B(B^+ \rightarrow (\overline{D}_{CP(-1)}^{*0} K^+)/B(B^+ \rightarrow (\overline{D}_{CP(-1)}^{*0} \pi^+))$ and $B(B^+ \rightarrow \overline{D}^{*0} K^+)/B(B^+ \rightarrow \overline{D}^{*0} \pi^+)$, $1.15 \pm 0.31 \pm 0.12$. We multiply by our best value of $B(B^+ \rightarrow \overline{D}^{*0} K^+)/B(B^+ \rightarrow \overline{D}^{*0} \pi^+) = 0.080 \pm 0.011$. Our first error is their experiment's error and the second error is systematic error from using our best value.			

 $\Gamma(\overline{D}^*(2007)^0 K^*(892)^+)/\Gamma_{\text{total}}$ Γ_{66}/Γ

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
8.1±1.4 OUR AVERAGE			
8.3 ± 1.1 ± 1.0	134 AUBERT	04K BABR	$e^+ e^- \rightarrow \gamma(4S)$
7.2 ± 2.2 ± 2.6	135 MAHAPATRA	02 CLE2	$e^+ e^- \rightarrow \gamma(4S)$
134 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.			
135 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and an unpolarized final state.			

 $\Gamma(\overline{D}^*(2007)^0 K^+ \overline{K}^0)/\Gamma_{\text{total}}$ Γ_{67}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<10.6	90	136 DRUTSKOY	02 BELL	$e^+ e^- \rightarrow \gamma(4S)$
136 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.				

 $\Gamma(\overline{D}^*(2007)^0 K^+ K^*(892)^0)/\Gamma_{\text{total}}$ Γ_{68}/Γ

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
15.3±3.1±2.9	137 DRUTSKOY	02 BELL	$e^+ e^- \rightarrow \gamma(4S)$
137 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.			

 $\Gamma(\overline{D}^*(2007)^0 \pi^+ \pi^+ \pi^-)/\Gamma_{\text{total}}$ Γ_{69}/Γ

VALUE (units 10^{-2})	EVTS	DOCUMENT ID	TECN	COMMENT
1.03 ±0.12 OUR AVERAGE				
1.055 ± 0.047 ± 0.129	138 MAJUMDER	04 BELL	$e^+ e^- \rightarrow \gamma(4S)$	
0.94 ± 0.20 ± 0.17	48,139,140 ALAM	94 CLE2	$e^+ e^- \rightarrow \gamma(4S)$	

138 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

139 ALAM 94 assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the CLEO II $B(D^*(2007)^0 \rightarrow D^0\pi^0)$ and absolute $B(D^0 \rightarrow K^-\pi^+)$ and the PDG 1992 $B(D^0 \rightarrow K^-\pi^+\pi^0)/B(D^0 \rightarrow K^-\pi^+)$ and $B(D^0 \rightarrow K^-\pi^+\pi^+\pi^-)/B(D^0 \rightarrow K^-\pi^+)$.

140 The three pion mass is required to be between 1.0 and 1.6 GeV consistent with an a_1 meson. (If this channel is dominated by a_1^+ , the branching ratio for $\bar{D}^{*0}a_1^+$ is twice that for $\bar{D}^{*0}\pi^+\pi^+\pi^-$.)

$\Gamma(\bar{D}^{*}(2007)^0 a_1(1260)^+)/\Gamma_{\text{total}}$ Γ_{70}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0188±0.0040±0.0034	141,142 ALAM 94	CLE2	$e^+e^- \rightarrow \gamma(4S)$

141 ALAM 94 value is twice their $\Gamma(\bar{D}^{*}(2007)^0\pi^+\pi^+\pi^-)/\Gamma_{\text{total}}$ value based on their observation that the three pions are dominantly in the $a_1(1260)$ mass range 1.0 to 1.6 GeV.

142 ALAM 94 assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the CLEO II $B(D^*(2007)^0 \rightarrow D^0\pi^0)$ and absolute $B(D^0 \rightarrow K^-\pi^+)$ and the PDG 1992 $B(D^0 \rightarrow K^-\pi^+\pi^0)/B(D^0 \rightarrow K^-\pi^+)$ and $B(D^0 \rightarrow K^-\pi^+\pi^+\pi^-)/B(D^0 \rightarrow K^-\pi^+)$.

$\Gamma(\bar{D}^{*}(2007)^0\pi^-\pi^+\pi^+\pi^0)/\Gamma_{\text{total}}$ Γ_{71}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0180±0.0024±0.0027	143 ALEXANDER 01B	CLE2	$e^+e^- \rightarrow \gamma(4S)$

143 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. The signal is consistent with all observed $\omega\pi^+$ having proceeded through the ρ'^+ resonance at mass $1349 \pm 25^{+10}_{-5}$ MeV and width $547 \pm 86^{+46}_{-45}$ MeV.

$\Gamma(\bar{D}^{*0}3\pi^+2\pi^-)/\Gamma_{\text{total}}$ Γ_{72}/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
5.67±0.91±0.85	144 MAJUMDER 04	BELL	$e^+e^- \rightarrow \gamma(4S)$

144 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(D^*(2010)^+\pi^0)/\Gamma_{\text{total}}$ Γ_{73}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.00017	90	145 BRANDENB... 98	CLE2	$e^+e^- \rightarrow \gamma(4S)$

145 BRANDENBURG 98 assume equal production of B^+ and B^0 at $\gamma(4S)$ and use the D^* partial reconstruction technique. The first error is their experiment's error and the second error is the systematic error from the PDG 96 value of $B(D^* \rightarrow D\pi)$.

$\Gamma(D^*(2010)^+K^0)/\Gamma_{\text{total}}$ Γ_{74}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<9.0 × 10⁻⁶	90	146 AUBERT,B 05E	BABR	$e^+e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$<9.5 \times 10^{-5}$ 90 146 GRITSAN 01 CLE2 $e^+e^- \rightarrow \gamma(4S)$

146 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(D^*(2010)^-\pi^+\pi^+\pi^0)/\Gamma_{\text{total}}$ Γ_{75}/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.0152±0.0071±0.0001	26	147 ALBRECHT	90J ARG	$e^+e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
0.043 ± 0.013 ± 0.026	24	148 ALBRECHT	87C ARG	$e^+e^- \rightarrow \gamma(4S)$
147 ALBRECHT 90J reports $0.018 \pm 0.007 \pm 0.005$ for $B(D^*(2010)^+ \rightarrow D^0\pi^+) = 0.57 \pm 0.06$. We rescale to our best value $B(D^*(2010)^+ \rightarrow D^0\pi^+) = (67.7 \pm 0.5) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and uses Mark III branching fractions for the D .				
148 ALBRECHT 87C use PDG 86 branching ratios for D and $D^*(2010)$ and assume $B(\gamma(4S) \rightarrow B^+B^-) = 55\%$ and $B(\gamma(4S) \rightarrow B^0\bar{B}^0) = 45\%$. Superseded by ALBRECHT 90J.				

 $\Gamma(D^*(2010)^-\pi^+\pi^+\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_{76}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
2.56±0.26±0.33		149 MAJUMDER	04 BELL	$e^+e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
<10	90	150 ALBRECHT	90J ARG	$e^+e^- \rightarrow \gamma(4S)$
149 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.				
150 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and uses Mark III branching fractions for the D and $D^*(2010)$.				

 $\Gamma(\overline{D}^{**0}\pi^+)/\Gamma_{\text{total}}$ Γ_{77}/Γ D^{**0} represents an excited state with mass $2.2 < M < 2.8$ GeV/c².

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
5.9±1.3±0.2	151,152 AUBERT,BE	06J BABR	$e^+e^- \rightarrow \gamma(4S)$
151 AUBERT,BE 06J reports $[B(B^+ \rightarrow \overline{D}^{**0}\pi^+) / B(B^+ \rightarrow \overline{D}^0\pi^+)] = 1.22 \pm 0.13 \pm 0.23$. We multiply by our best value $B(B^+ \rightarrow \overline{D}^0\pi^+) = (4.84 \pm 0.15) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.			
152 Uses a missing-mass method. Does not depend on D branching fractions or B^+/B^0 production rates.			

 $\Gamma(\overline{D}_1^*(2420)^0\pi^+)/\Gamma_{\text{total}}$ Γ_{78}/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.0015±0.0006 OUR AVERAGE				Error includes scale factor of 1.3.
0.0011±0.0005±0.0002	8	153 ALAM	94 CLE2	$e^+e^- \rightarrow \gamma(4S)$
0.0025±0.0007±0.0006		154 ALBRECHT	94D ARG	$e^+e^- \rightarrow \gamma(4S)$
153 ALAM 94 assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the CLEO II $B(D^*(2010)^+ \rightarrow D^0\pi^+)$ and absolute $B(D^0 \rightarrow K^-\pi^+)$ and the PDG 1992 $B(D^0 \rightarrow K^-\pi^+\pi^0)/B(D^0 \rightarrow K^-\pi^+)$ and assuming $B(D_1(2420)^0 \rightarrow D^*(2010)^+\pi^-) = 67\%$.				
154 ALBRECHT 94D assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the CLEO II $B(D^*(2010)^+ \rightarrow D^0\pi^+)$ assuming $B(D_1(2420)^0 \rightarrow D^*(2010)^+\pi^-) = 67\%$.				

$\Gamma(\bar{D}_1(2420)^0 \pi^+ \times B(\bar{D}_1^0 \rightarrow \bar{D}^0 \pi^+ \pi^-)) / \Gamma_{\text{total}}$ Γ_{79}/Γ

<u>VALUE</u> (units 10^{-4})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$1.85 \pm 0.29 \pm 0.35$ ± 0.55	155 ABE	05A BELL	$e^+ e^- \rightarrow \gamma(4S)$

155 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}_2^*(2462)^0 \pi^+ \times B(\bar{D}_2^*(2462)^0 \rightarrow D^- \pi^+)) / \Gamma_{\text{total}}$ Γ_{80}/Γ

<u>VALUE</u> (units 10^{-4})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$3.4 \pm 0.3 \pm 0.72$	156 ABE	04D BELL	$e^+ e^- \rightarrow \gamma(4S)$

156 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}_0^*(2400)^0 \pi^+ \times B(\bar{D}_0^*(2400)^0 \rightarrow D^- \pi^+)) / \Gamma_{\text{total}}$ Γ_{81}/Γ

<u>VALUE</u> (units 10^{-4})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$6.1 \pm 0.6 \pm 1.8$	157 ABE	04D BELL	$e^+ e^- \rightarrow \gamma(4S)$

157 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}_1(2421)^0 \pi^+ \times B(\bar{D}_1(2421)^0 \rightarrow D^{*-} \pi^+)) / \Gamma_{\text{total}}$ Γ_{82}/Γ

<u>VALUE</u> (units 10^{-4})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$6.8 \pm 0.7 \pm 1.3$	158 ABE	04D BELL	$e^+ e^- \rightarrow \gamma(4S)$

158 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}_2^*(2462)^0 \pi^+ \times B(\bar{D}_2^*(2462)^0 \rightarrow D^{*-} \pi^+)) / \Gamma_{\text{total}}$ Γ_{83}/Γ

<u>VALUE</u> (units 10^{-4})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$1.8 \pm 0.3 \pm 0.4$	159 ABE	04D BELL	$e^+ e^- \rightarrow \gamma(4S)$

159 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}'_1(2427)^0 \pi^+ \times B(\bar{D}'_1(2427)^0 \rightarrow D^{*-} \pi^+)) / \Gamma_{\text{total}}$ Γ_{84}/Γ

<u>VALUE</u> (units 10^{-4})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$5.0 \pm 0.4 \pm 1.1$	160 ABE	04D BELL	$e^+ e^- \rightarrow \gamma(4S)$

160 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}_1(2420)^0 \pi^+ \times B(\bar{D}_1^0 \rightarrow \bar{D}^{*0} \pi^+ \pi^-)) / \Gamma_{\text{total}}$ Γ_{85}/Γ

<u>VALUE</u> (units 10^{-4})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<0.06	90	161 ABE	05A BELL	$e^+ e^- \rightarrow \gamma(4S)$

161 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}_1^*(2420)^0 \rho^+)/\Gamma_{\text{total}}$ Γ_{86}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<0.0014	90	162 ALAM	94 CLE2	$e^+ e^- \rightarrow \gamma(4S)$

162 ALAM 94 assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the CLEO II $B(D^*(2010)^+ \rightarrow D^0 \pi^+)$ assuming $B(D_1(2420)^0 \rightarrow D^*(2010)^+ \pi^-) = 67\%$.

$\Gamma(\overline{D}_2^*(2460)^0 \pi^+)/\Gamma_{\text{total}}$ Γ_{87}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0013	90	163 ALAM	94	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<0.0028	90	164 ALAM	94	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
<0.0023	90	165 ALBRECHT	94D	ARG $e^+ e^- \rightarrow \gamma(4S)$

163 ALAM 94 assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the Mark III $B(D^+ \rightarrow K^- \pi^+ \pi^+)$ and $B(D_2^*(2460)^0 \rightarrow D^+ \pi^-) = 30\%$.

164 ALAM 94 assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the Mark III $B(D^+ \rightarrow K^- \pi^+ \pi^+)$, the CLEO II $B(D^*(2010)^+ \rightarrow D^0 \pi^+)$ and $B(D_2^*(2460)^0 \rightarrow D^*(2010)^+ \pi^-) = 20\%$.

165 ALBRECHT 94D assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the CLEO II $B(D^*(2010)^+ \rightarrow D^0 \pi^+)$ and $B(D_2^*(2460)^0 \rightarrow D^*(2010)^+ \pi^-) = 30\%$.

$\Gamma(\overline{D}_2^*(2460)^0 \pi^+ \times B(\overline{D}_2^{*0} \rightarrow \overline{D}^{*0} \pi^+ \pi^-))/\Gamma_{\text{total}}$ Γ_{88}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<0.22	90	166 ABE	05A	BELL $e^+ e^- \rightarrow \gamma(4S)$

166 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\overline{D}_2^*(2460)^0 \rho^+)/\Gamma_{\text{total}}$ Γ_{89}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0047	90	167 ALAM	94	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
<0.005	90	168 ALAM	94	CLE2 $e^+ e^- \rightarrow \gamma(4S)$

167 ALAM 94 assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the Mark III $B(D^+ \rightarrow K^- \pi^+ \pi^+)$ and $B(D_2^*(2460)^0 \rightarrow D^+ \pi^-) = 30\%$.

168 ALAM 94 assume equal production of B^+ and B^0 at the $\gamma(4S)$ and use the Mark III $B(D^+ \rightarrow K^- \pi^+ \pi^+)$, the CLEO II $B(D^*(2010)^+ \rightarrow D^0 \pi^+)$ and $B(D_2^*(2460)^0 \rightarrow D^*(2010)^+ \pi^-) = 20\%$.

$\Gamma(\overline{D}^0 D_s^+)/\Gamma_{\text{total}}$ Γ_{90}/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.0100 ± 0.0017 OUR AVERAGE				

0.0095 ± 0.0020 ± 0.0008 169 AUBERT 06N BABR $e^+ e^- \rightarrow \gamma(4S)$

0.0098 ± 0.0026 ± 0.0009 170 GIBAUT 96 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

0.014 ± 0.008 ± 0.001 171 ALBRECHT 92G ARG $e^+ e^- \rightarrow \gamma(4S)$

0.013 ± 0.006 ± 0.001 5 172 BORTOLETTO90 CLEO $e^+ e^- \rightarrow \gamma(4S)$

169 AUBERT 06N reports $(0.92 \pm 0.14 \pm 0.18) \times 10^{-2}$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.0462 \pm 0.0062$. We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

170 GIBAUT 96 reports $0.0126 \pm 0.0022 \pm 0.0025$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.035$. We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

171 ALBRECHT 92G reports $0.024 \pm 0.012 \pm 0.004$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their

experiment's error and our second error is the systematic error from using our best value.

Assumes PDG 1990 D^0 branching ratios, e.g., $B(D^0 \rightarrow K^-\pi^+) = 3.71 \pm 0.25\%$.

¹⁷² BORTOLETTO 90 reports 0.029 ± 0.013 for $B(D_s^+ \rightarrow \phi\pi^+) = 0.02$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(D_{s0}(2317)^+\bar{D}^0 \times B(D_{s0}(2317)^+ \rightarrow D_s^+\pi^0))/\Gamma_{\text{total}}$	Γ_{91}/Γ		
VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT

0.73^{+0.22}_{-0.17} OUR AVERAGE

$0.80^{+0.35}_{-0.21} \pm 0.07$ 173,174 AUBERT,B 04S BABR $e^+e^- \rightarrow \gamma(4S)$

$0.65^{+0.26}_{-0.24} \pm 0.06$ 173,175 KROKOVNY 03B BELL $e^+e^- \rightarrow \gamma(4S)$

¹⁷³ Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

¹⁷⁴ AUBERT,B 04S reports $(1.0 \pm 0.3^{+0.4}_{-0.2}) \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.036 \pm 0.009$.

We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

¹⁷⁵ KROKOVNY 03B reports $(0.81^{+0.30}_{-0.27} \pm 0.24) \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.036 \pm 0.009$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(D_{s0}(2317)^+\bar{D}^0 \times B(D_{s0}(2317)^+ \rightarrow D_s^{*+}\gamma))/\Gamma_{\text{total}}$	Γ_{92}/Γ			
VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT

<0.76 90 176 KROKOVNY 03B BELL $e^+e^- \rightarrow \gamma(4S)$

¹⁷⁶ Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(D_{s0}(2317)^+\bar{D}^*(2010)^0 \times B(D_{s0}(2317)^+ \rightarrow D_s^+\pi^0))/\Gamma_{\text{total}}$	Γ_{93}/Γ		
VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT

0.9^{+0.6}_{-0.3} 177 AUBERT,B 04S BABR $e^+e^- \rightarrow \gamma(4S)$

¹⁷⁷ Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(D_{sJ}(2457)^+\bar{D}^0)/\Gamma_{\text{total}}$	Γ_{94}/Γ		
VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT

3.1^{+1.0}_{-0.9} OUR AVERAGE

$4.3 \pm 1.6 \pm 1.3$ 178 AUBERT 06N BABR $e^+e^- \rightarrow \gamma(4S)$ |

$4.6^{+1.8}_{-1.6} \pm 1.0$ 179,180 AUBERT,B 04S BABR $e^+e^- \rightarrow \gamma(4S)$

$2.1^{+1.1}_{-0.9} \pm 0.5$ 179,181 KROKOVNY 03B BELL $e^+e^- \rightarrow \gamma(4S)$

178 Uses a missing-mass method in the events that one of the B mesons is fully reconstructed. ■

179 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

180 AUBERT,B 04S reports $[B(B^+ \rightarrow D_{sJ}(2457)^+ \bar{D}^0) \times B(D_{s1}(2460)^+ \rightarrow D_s^{*+} \pi^0)] = (2.2^{+0.8}_{-0.7} \pm 0.3) \times 10^{-3}$. We divide by our best value $B(D_{s1}(2460)^+ \rightarrow D_s^{*+} \pi^0) = (48 \pm 11) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

181 KROKOVNY 03B reports $[B(B^+ \rightarrow D_{sJ}(2457)^+ \bar{D}^0) \times B(D_{s1}(2460)^+ \rightarrow D_s^{*+} \pi^0)] = (1.0^{+0.5}_{-0.4} \pm 0.1) \times 10^{-3}$. We divide by our best value $B(D_{s1}(2460)^+ \rightarrow D_s^{*+} \pi^0) = (48 \pm 11) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$$\Gamma(D_{sJ}(2457)^+ \bar{D}^0 \times B(D_{sJ}(2457)^+ \rightarrow D_s^{*+} \gamma)) / \Gamma_{\text{total}} \quad \Gamma_{95}/\Gamma$$

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
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0.46 $^{+0.13}_{-0.11}$ OUR AVERAGE

0.48 $^{+0.19}_{-0.13} \pm 0.04$ 182,183 AUBERT,B 04S BABR $e^+ e^- \rightarrow \Upsilon(4S)$

0.45 $^{+0.15}_{-0.14} \pm 0.04$ 182,184 KROKOVNY 03B BELL $e^+ e^- \rightarrow \Upsilon(4S)$

182 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

183 AUBERT,B 04S reports $(0.6 \pm 0.2^{+0.2}_{-0.1}) \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.036 \pm 0.009$.

We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

184 KROKOVNY 03B reports $(0.56^{+0.16}_{-0.15} \pm 0.17) \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.036 \pm 0.009$. We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$$\Gamma(D_{sJ}(2457)^+ \bar{D}^0 \times B(D_{sJ}(2457)^+ \rightarrow D_s^{*+} \pi^+ \pi^-)) / \Gamma_{\text{total}} \quad \Gamma_{96}/\Gamma$$

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
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<0.22 90 185 KROKOVNY 03B BELL $e^+ e^- \rightarrow \Upsilon(4S)$

185 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$$\Gamma(D_{sJ}(2457)^+ \bar{D}^0 \times B(D_{sJ}(2457)^+ \rightarrow D_s^{*+} \pi^0)) / \Gamma_{\text{total}} \quad \Gamma_{97}/\Gamma$$

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
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<0.27 90 186 KROKOVNY 03B BELL $e^+ e^- \rightarrow \Upsilon(4S)$

186 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$$\Gamma(D_{sJ}(2457)^+ \bar{D}^0 \times B(D_{sJ}(2457)^+ \rightarrow D_s^{*+} \gamma)) / \Gamma_{\text{total}} \quad \Gamma_{98}/\Gamma$$

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
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<0.98 90 187 KROKOVNY 03B BELL $e^+ e^- \rightarrow \Upsilon(4S)$

187 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(D_{sJ}(2457)^+ \bar{D}^*(2007)^0)/\Gamma_{\text{total}}$ Γ_{99}/Γ

<u>VALUE</u> (units 10^{-3})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
12.0±3.0 OUR AVERAGE			
11.2±2.6±2.0	188 AUBERT	06N BABR	$e^+ e^- \rightarrow \gamma(4S)$
16. $^{+8.}_{-6.}$ $\pm 4.$	189,190 AUBERT,B	04S BABR	$e^+ e^- \rightarrow \gamma(4S)$
188 Uses a missing-mass method in the events that one of the B mesons is fully reconstructed.			
189 AUBERT,B 04S reports $[B(B^+ \rightarrow D_{sJ}(2457)^+ \bar{D}^*(2007)^0) \times B(D_{s1}(2460)^+ \rightarrow D_s^{*+} \pi^0)] = (7.6 \pm 1.7^{+3.2}_{-2.4}) \times 10^{-3}$. We divide by our best value $B(D_{s1}(2460)^+ \rightarrow D_s^{*+} \pi^0) = (48 \pm 11) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.			
190 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.			

 $\Gamma(D_{sJ}(2457)^+ \bar{D}^*(2007)^0 \times B(D_{sJ}(2457)^+ \rightarrow D_s^+ \gamma))/\Gamma_{\text{total}}$ Γ_{100}/Γ

<u>VALUE</u> (units 10^{-3})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.4±0.4$^{+0.6}_{-0.4}$	191 AUBERT,B	04S BABR	$e^+ e^- \rightarrow \gamma(4S)$

191 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(\bar{D}^0 D_{sJ}(2536)^+ \times B(D_{sJ}(2536)^+ \rightarrow D^*(2007)^0 K^+))/\Gamma_{\text{total}}$ Γ_{101}/Γ

<u>VALUE</u> (units 10^{-4})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<2	90	AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

 $\Gamma(\bar{D}^*(2007)^0 D_{sJ}(2536)^+ \times B(D_{sJ}(2536)^+ \rightarrow D^*(2007)^0 K^+))/\Gamma_{\text{total}}$ Γ_{102}/Γ

<u>VALUE</u> (units 10^{-4})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<7	90	AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

 $\Gamma(\bar{D}^0 D_{sJ}(2573)^+ \times B(D_{sJ}(2573)^+ \rightarrow D^0 K^+))/\Gamma_{\text{total}}$ Γ_{103}/Γ

<u>VALUE</u> (units 10^{-4})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<2	90	AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

 $\Gamma(\bar{D}^*(2007)^0 D_{sJ}(2573)^+ \times B(D_{sJ}(2573)^+ \rightarrow D^0 K^+))/\Gamma_{\text{total}}$ Γ_{104}/Γ

<u>VALUE</u> (units 10^{-4})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<5	90	AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

 $\Gamma(\bar{D}^0 D_s^{*+})/\Gamma_{\text{total}}$ Γ_{105}/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.0076±0.0016 OUR AVERAGE			
0.0079±0.0017±0.0007	192 AUBERT	06N BABR	$e^+ e^- \rightarrow \gamma(4S)$
0.0068±0.0025±0.0006	193 GIBAUT	96 CLE2	$e^+ e^- \rightarrow \gamma(4S)$
0.010 ± 0.007 ± 0.001	194 ALBRECHT	92G ARG	$e^+ e^- \rightarrow \gamma(4S)$

- 192 AUBERT 06N reports $(0.77 \pm 0.15 \pm 0.13) \times 10^{-2}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.0462 \pm 0.0062$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.
- 193 GIBAUT 96 reports $0.0087 \pm 0.0027 \pm 0.0017$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.035$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.
- 194 ALBRECHT 92G reports $0.016 \pm 0.012 \pm 0.003$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes PDG 1990 D^0 branching ratios, e.g., $B(D^0 \rightarrow K^-\pi^+) = 3.71 \pm 0.25\%$.

$\Gamma(\bar{D}^*(2007)^0 D_s^+)/\Gamma_{\text{total}}$ Γ_{106}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0082±0.0017 OUR AVERAGE			
0.0078±0.0018±0.0007	195 AUBERT	06N BABR	$e^+e^- \rightarrow \gamma(4S)$
0.011 ± 0.004 ± 0.001	196 GIBAUT	96 CLE2	$e^+e^- \rightarrow \gamma(4S)$
0.008 ± 0.006 ± 0.001	197 ALBRECHT	92G ARG	$e^+e^- \rightarrow \gamma(4S)$
195 AUBERT 06N reports $(0.76 \pm 0.15 \pm 0.13) \times 10^{-2}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.0462 \pm 0.0062$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.			
196 GIBAUT 96 reports $0.0140 \pm 0.0043 \pm 0.0035$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.035$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.			
197 ALBRECHT 92G reports $0.013 \pm 0.009 \pm 0.002$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes PDG 1990 D^0 and $D^*(2007)^0$ branching ratios, e.g., $B(D^0 \rightarrow K^-\pi^+) = 3.71 \pm 0.25\%$ and $B(D^*(2007)^0 \rightarrow D^0\pi^0) = 55 \pm 6\%$.			

$\Gamma(\bar{D}^*(2007)^0 D_s^{*+})/\Gamma_{\text{total}}$ Γ_{107}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0171±0.0024 OUR AVERAGE			
0.0167±0.0019±0.0015	198 AUBERT	06N BABR	$e^+e^- \rightarrow \gamma(4S)$
0.024 ± 0.009 ± 0.002	199 GIBAUT	96 CLE2	$e^+e^- \rightarrow \gamma(4S)$
0.019 ± 0.010 ± 0.002	200 ALBRECHT	92G ARG	$e^+e^- \rightarrow \gamma(4S)$
198 AUBERT 06N reports $(1.62 \pm 0.22 \pm 0.18) \times 10^{-2}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.0462 \pm 0.0062$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.			
199 GIBAUT 96 reports $0.0310 \pm 0.0088 \pm 0.0065$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.035$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.			
200 ALBRECHT 92G reports $0.031 \pm 0.016 \pm 0.005$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.			

Assumes PDG 1990 D^0 and $D^*(2007)^0$ branching ratios, e.g., $B(D^0 \rightarrow K^- \pi^+) = 3.71 \pm 0.25\%$ and $B(D^*(2007)^0 \rightarrow D^0 \pi^0) = 55 \pm 6\%$.

$\Gamma(D_s^{(*)} + \bar{D}^{**0})/\Gamma_{\text{total}}$	Γ_{108}/Γ		
<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$(2.73 \pm 0.93 \pm 0.68) \times 10^{-2}$	201 AHMED 00B	CLE2	$e^+ e^- \rightarrow \gamma(4S)$

201 AHMED 00B reports their experiment's uncertainties ($\pm 0.78 \pm 0.48 \pm 0.68\%$), where the first error is statistical, the second is systematic, and the third is the uncertainty in the $D_s \rightarrow \phi\pi$ branching fraction. We combine the first two in quadrature.

$\Gamma(\bar{D}^*(2007)^0 D^*(2010)^+)/\Gamma_{\text{total}}$	Γ_{109}/Γ			
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$8.1 \pm 1.2 \pm 1.2$		202 AUBERT,B 06A	BABR	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<110 90 BARATE 98Q ALEP $e^+ e^- \rightarrow Z$

202 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$[\Gamma(\bar{D}^0 D^*(2010)^+) + \Gamma(\bar{D}^*(2007)^0 D^+)]/\Gamma_{\text{total}}$	Γ_{110}/Γ			
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<130 (CL = 90%)	[$<13000 \times 10^{-6}$ (CL = 90%) OUR 2007 BEST LIMIT]			
<130	90	BARATE 98Q	ALEP	$e^+ e^- \rightarrow Z$

$\Gamma(\bar{D}^0 D^*(2010)^+)/\Gamma_{\text{total}}$	Γ_{111}/Γ		
<u>VALUE (units 10^{-4})</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
3.9 ± 0.5 OUR AVERAGE			
3.6 $\pm 0.5 \pm 0.4$	203 AUBERT,B 06A	BABR	$e^+ e^- \rightarrow \gamma(4S)$

4.57 $\pm 0.71 \pm 0.56$ 203 MAJUMDER 05 BELL $e^+ e^- \rightarrow \gamma(4S)$

203 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\bar{D}^0 D^+)/\Gamma_{\text{total}}$	Γ_{112}/Γ			
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
4.2 ± 0.6 OUR AVERAGE				
3.8 $\pm 0.6 \pm 0.5$	204 AUBERT,B 06A	BABR	$e^+ e^- \rightarrow \gamma(4S)$	

4.83 $\pm 0.78 \pm 0.58$ 204 MAJUMDER 05 BELL $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<67 90 BARATE 98Q ALEP $e^+ e^- \rightarrow Z$

204 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\bar{D}^0 D^+ K^0)/\Gamma_{\text{total}}$	Γ_{113}/Γ			
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<2.8	90	205 AUBERT 03X	BABR	$e^+ e^- \rightarrow \gamma(4S)$

205 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(D^+ \bar{D}^*(2007)^0)/\Gamma_{\text{total}}$	Γ_{114}/Γ		
<u>VALUE (units 10^{-4})</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
6.3 $\pm 1.4 \pm 1.0$	206 AUBERT,B 06A	BABR	$e^+ e^- \rightarrow \gamma(4S)$

206 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\bar{D}^*(2007)^0 D^+ K^0)/\Gamma_{\text{total}}$ Γ_{115}/Γ

<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<6.1	90	207 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

207 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}^0 \bar{D}^*(2010)^+ K^0)/\Gamma_{\text{total}}$ Γ_{116}/Γ

<u>VALUE (units 10^{-3})</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$5.2^{+1.0}_{-0.9} \pm 0.7$	208 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

208 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}^*(2007)^0 D^*(2010)^+ K^0)/\Gamma_{\text{total}}$ Γ_{117}/Γ

<u>VALUE (units 10^{-3})</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$7.8^{+2.3}_{-2.1} \pm 1.4$	209 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

209 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}^0 D^0 K^+)/\Gamma_{\text{total}}$ Γ_{118}/Γ

<u>VALUE (units 10^{-3})</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.37 ± 0.32 OUR AVERAGE	Error includes scale factor of 1.5.		

$1.17 \pm 0.21 \pm 0.15$	210 CHISTOV	04 BELL	$e^+ e^- \rightarrow \gamma(4S)$
$1.9 \pm 0.3 \pm 0.3$	210 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

210 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}^*(2007)^0 D^0 K^+)/\Gamma_{\text{total}}$ Γ_{119}/Γ

<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<3.8	90	211 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

211 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}^0 D^*(2007)^0 K^+)/\Gamma_{\text{total}}$ Γ_{120}/Γ

<u>VALUE (units 10^{-3})</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$4.7 \pm 0.7 \pm 0.7$	212 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

212 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{D}^*(2007)^0 D^*(2007)^0 K^+)/\Gamma_{\text{total}}$ Γ_{121}/Γ

<u>VALUE (units 10^{-3})</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$5.3^{+1.1}_{-1.0} \pm 1.2$	213 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

213 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(D^- D^+ K^+)/\Gamma_{\text{total}}$ Γ_{122}/Γ

<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<0.4	90	214 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.90	90	214 CHISTOV	04 BELL	$e^+ e^- \rightarrow \gamma(4S)$
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214 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(D^- D^*(2010)^+ K^+)/\Gamma_{\text{total}}$

Γ_{123}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
<0.7	90	215 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

215 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(D^*(2010)^- D^+ K^+)/\Gamma_{\text{total}}$

Γ_{124}/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
1.5±0.3±0.2	216 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

216 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(D^*(2010)^- D^*(2010)^+ K^+)/\Gamma_{\text{total}}$

Γ_{125}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
<1.8	90	217 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

217 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma((\bar{D}+\bar{D}^*)(D+D^*)K)/\Gamma_{\text{total}}$

Γ_{126}/Γ

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
3.5±0.3±0.5	218 AUBERT	03X BABR	$e^+ e^- \rightarrow \gamma(4S)$

218 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(D_s^+ \pi^0)/\Gamma_{\text{total}}$

Γ_{127}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
1.6^{+0.6}_{-0.5}±0.1	219 AUBERT	07M BABR	$e^+ e^- \rightarrow \gamma(4S)$	■

• • • We do not use the following data for averages, fits, limits, etc. • • •

<16 90 220 ALEXANDER 93B CLE2 $e^+ e^- \rightarrow \gamma(4S)$

219 AUBERT 07M reports $[B(B^+ \rightarrow D_s^+ \pi^0) \times B(D_s^+ \rightarrow \phi \pi^+)] = (7.0^{+2.4+0.6}_{-2.1-0.8}) \times 10^{-7}$. We divide by our best value $B(D_s^+ \rightarrow \phi \pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. ■

220 ALEXANDER 93B reports $< 2.0 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = 0.045$.

$[\Gamma(D_s^+ \pi^0) + \Gamma(D_s^{*+} \pi^0)]/\Gamma_{\text{total}}$

$(\Gamma_{127} + \Gamma_{128})/\Gamma$

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0005	90	221 ALBRECHT 93E ARG	$e^+ e^- \rightarrow \gamma(4S)$	■

221 ALBRECHT 93E reports $< 0.9 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = 0.045$.

$\Gamma(D_s^{*+} \pi^0)/\Gamma_{\text{total}}$

Γ_{128}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.00026	90	222 ALEXANDER 93B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	■

222 ALEXANDER 93B reports $< 3.2 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = 0.045$.

$\Gamma(D_s^+ \eta)/\Gamma_{\text{total}}$				Γ_{129}/Γ
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0004	90	223 ALEXANDER 93B	CLE2	$e^+ e^- \rightarrow \gamma(4S)$
223 ALEXANDER 93B reports $< 4.6 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.				

$\Gamma(D_s^{*+} \eta)/\Gamma_{\text{total}}$				Γ_{130}/Γ
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0006	90	224 ALEXANDER 93B	CLE2	$e^+ e^- \rightarrow \gamma(4S)$
224 ALEXANDER 93B reports $< 7.5 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.				

$\Gamma(D_s^+ \rho^0)/\Gamma_{\text{total}}$				Γ_{131}/Γ
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.00030	90	225 ALEXANDER 93B	CLE2	$e^+ e^- \rightarrow \gamma(4S)$
225 ALEXANDER 93B reports $< 3.7 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.				

$[\Gamma(D_s^+ \rho^0) + \Gamma(D_s^+ \bar{K}^*(892)^0)]/\Gamma_{\text{total}}$				$(\Gamma_{131} + \Gamma_{141})/\Gamma$
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0020	90	226 ALBRECHT 93E	ARG	$e^+ e^- \rightarrow \gamma(4S)$
226 ALBRECHT 93E reports $< 3.4 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.				

$\Gamma(D_s^{*+} \rho^0)/\Gamma_{\text{total}}$				Γ_{132}/Γ
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0004	90	227 ALEXANDER 93B	CLE2	$e^+ e^- \rightarrow \gamma(4S)$
227 ALEXANDER 93B reports $< 4.8 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.				

$[\Gamma(D_s^{*+} \rho^0) + \Gamma(D_s^{*+} \bar{K}^*(892)^0)]/\Gamma_{\text{total}}$				$(\Gamma_{132} + \Gamma_{142})/\Gamma$
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0012	90	228 ALBRECHT 93E	ARG	$e^+ e^- \rightarrow \gamma(4S)$
228 ALBRECHT 93E reports $< 2.0 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.				

$\Gamma(D_s^+ \omega)/\Gamma_{\text{total}}$				Γ_{133}/Γ
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0004	90	229 ALEXANDER 93B	CLE2	$e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<0.0020	90	230 ALBRECHT 93E	ARG	$e^+ e^- \rightarrow \gamma(4S)$

- 229 ALEXANDER 93B reports $< 4.8 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.
- 230 ALBRECHT 93E reports $< 3.4 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.

$\Gamma(D_s^{*+} \omega)/\Gamma_{\text{total}}$	Γ_{134}/Γ
<u>VALUE</u>	<u>CL%</u>
<0.0006	90
231 ALEXANDER 93B CLE2	$e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •	
<0.0011	90
232 ALBRECHT 93E ARG	$e^+ e^- \rightarrow \gamma(4S)$
231 ALEXANDER 93B reports $< 6.8 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.	
232 ALBRECHT 93E reports $< 1.9 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.	

$\Gamma(D_s^+ a_1(1260)^0)/\Gamma_{\text{total}}$	Γ_{135}/Γ
<u>VALUE</u>	<u>CL%</u>
<0.0018	90
233 ALBRECHT 93E ARG	$e^+ e^- \rightarrow \gamma(4S)$
233 ALBRECHT 93E reports $< 3.0 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.	

$\Gamma(D_s^{*+} a_1(1260)^0)/\Gamma_{\text{total}}$	Γ_{136}/Γ
<u>VALUE</u>	<u>CL%</u>
<0.0013	90
234 ALBRECHT 93E ARG	$e^+ e^- \rightarrow \gamma(4S)$
234 ALBRECHT 93E reports $< 2.2 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.	

$\Gamma(D_s^+ \phi)/\Gamma_{\text{total}}$	Γ_{137}/Γ
<u>VALUE</u>	<u>CL%</u>
<1.9 × 10⁻⁶	90
235 AUBERT 06F BABR	$e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •	
<0.0010	90
236 ALBRECHT 93E ARG	$e^+ e^- \rightarrow \gamma(4S)$
<0.00026	90
237 ALEXANDER 93B CLE2	$e^+ e^- \rightarrow \gamma(4S)$
235 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.	
236 ALBRECHT 93E reports $< 1.7 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.	
237 ALEXANDER 93B reports $< 3.1 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.	

$\Gamma(D_s^{*+} \phi)/\Gamma_{\text{total}}$ Γ_{138}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<1.2 \times 10^{-5}$	90	238 AUBERT	06F BABR	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.0013	90	239 ALBRECHT	93E ARG	$e^+ e^- \rightarrow \gamma(4S)$
<0.00035	90	240 ALEXANDER	93B CLE2	$e^+ e^- \rightarrow \gamma(4S)$

238 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

239 ALBRECHT 93E reports $< 2.1 \times 10^{-3}$ for $B(D_s^{*+} \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^{*+} \rightarrow \phi\pi^+) = 0.045$.

240 ALEXANDER 93B reports $< 4.2 \times 10^{-4}$ for $B(D_s^{*+} \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^{*+} \rightarrow \phi\pi^+) = 0.045$.

$\Gamma(D_s^+ \bar{K}^0)/\Gamma_{\text{total}}$ Γ_{139}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
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<0.0008	90	241 ALEXANDER	93B CLE2	$e^+ e^- \rightarrow \gamma(4S)$
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• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.0015	90	242 ALBRECHT	93E ARG	$e^+ e^- \rightarrow \gamma(4S)$
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241 ALEXANDER 93B reports $< 10.3 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.

242 ALBRECHT 93E reports $< 2.5 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.

$\Gamma(D_s^{*+} \bar{K}^0)/\Gamma_{\text{total}}$ Γ_{140}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
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<0.0009	90	243 ALEXANDER	93B CLE2	$e^+ e^- \rightarrow \gamma(4S)$
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• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.0019	90	244 ALBRECHT	93E ARG	$e^+ e^- \rightarrow \gamma(4S)$
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243 ALEXANDER 93B reports $< 10.9 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.

244 ALBRECHT 93E reports $< 3.1 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.

$\Gamma(D_s^+ \bar{K}^*(892)^0)/\Gamma_{\text{total}}$ Γ_{141}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
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<0.0004	90	245 ALEXANDER	93B CLE2	$e^+ e^- \rightarrow \gamma(4S)$
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245 ALEXANDER 93B reports $< 4.4 \times 10^{-4}$ for $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 0.045$.

$\Gamma(D_s^{*+} \bar{K}^*(892)^0)/\Gamma_{\text{total}}$ Γ_{142}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
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<0.00035	90	246 ALEXANDER	93B CLE2	$e^+ e^- \rightarrow \gamma(4S)$
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246 ALEXANDER 93B reports $< 4.3 \times 10^{-4}$ for $B(D_s^{*+} \rightarrow \phi\pi^+) = 0.037$. We rescale to our best value $B(D_s^{*+} \rightarrow \phi\pi^+) = 0.045$.

$\Gamma(D_s^- \pi^+ K^+)/\Gamma_{\text{total}}$				Γ_{143}/Γ
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0007	90	247 ALBRECHT	93E ARG	$e^+ e^- \rightarrow \gamma(4S)$
247 ALBRECHT 93E reports $< 1.1 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = 0.045$.				

$\Gamma(D_s^{*-} \pi^+ K^+)/\Gamma_{\text{total}}$				Γ_{144}/Γ
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0010	90	248 ALBRECHT	93E ARG	$e^+ e^- \rightarrow \gamma(4S)$
248 ALBRECHT 93E reports $< 1.6 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = 0.045$.				

$\Gamma(D_s^- \pi^+ K^*(892)^+)/\Gamma_{\text{total}}$				Γ_{145}/Γ
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.005	90	249 ALBRECHT	93E ARG	$e^+ e^- \rightarrow \gamma(4S)$
249 ALBRECHT 93E reports $< 8.6 \times 10^{-3}$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = 0.045$.				

$\Gamma(D_s^{*-} \pi^+ K^*(892)^+)/\Gamma_{\text{total}}$				Γ_{146}/Γ
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.007	90	250 ALBRECHT	93E ARG	$e^+ e^- \rightarrow \gamma(4S)$
250 ALBRECHT 93E reports $< 1.1 \times 10^{-2}$ for $B(D_s^+ \rightarrow \phi \pi^+) = 0.027$. We rescale to our best value $B(D_s^+ \rightarrow \phi \pi^+) = 0.045$.				

$\Gamma(\eta_c K^+)/\Gamma_{\text{total}}$				Γ_{147}/Γ
VALUE (units 10^{-3})		DOCUMENT ID	TECN	COMMENT
0.91 ± 0.13 OUR AVERAGE				
0.87 ± 0.15		251,252 AUBERT	06E BABR	$e^+ e^- \rightarrow \gamma(4S)$
1.4 $^{+0.3}_{-0.2}$ ± 0.4		253 AUBERT,B	05L BABR	$e^+ e^- \rightarrow \gamma(4S)$
1.25 ± 0.14 $^{+0.39}_{-0.40}$		254 FANG	03 BELL	$e^+ e^- \rightarrow \gamma(4S)$
0.69 $^{+0.26}_{-0.21}$ ± 0.22		255 EDWARDS	01 CLE2	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

1.06 ± 0.12 ± 0.18 252,256 AUBERT,B 04B BABR $e^+ e^- \rightarrow \gamma(4S)$

251 Perform measurements of absolute branching fractions using a missing mass technique.

252 The ratio of $B(B^\pm \rightarrow K^\pm \eta_c)$ $B(\eta_c \rightarrow K\bar{K}\pi) = (7.4 \pm 0.5 \pm 0.7) \times 10^{-5}$ reported in AUBERT,B 04B and $B(B^\pm \rightarrow K^\pm \eta_c) = (8.7 \pm 1.5) \times 10^{-3}$ reported in AUBERT 06E contribute to the determination of $B(\eta_c \rightarrow K\bar{K}\pi)$, which is used by others for normalization.

253 AUBERT,B 05L reports $[B(B^+ \rightarrow \eta_c K^+) \times B(\eta_c(1S) \rightarrow p\bar{p})] = (1.8 $^{+0.3}_{-0.2}$ ± 0.2) \times 10^{-6}$. We divide by our best value $B(\eta_c(1S) \rightarrow p\bar{p}) = (1.3 \pm 0.4) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

254 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

- 255 EDWARDS 01 assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$. The correlated uncertainties (28.3)% from $B(J/\psi(1S) \rightarrow \gamma\eta_c)$ in those modes have been accounted for.
 256 AUBERT,B 04B reports $[B(B^+ \rightarrow \eta_c K^+) \times B(\eta_c(1S) \rightarrow K\bar{K}\pi)] = (0.074 \pm 0.005 \pm 0.007) \times 10^{-3}$. We divide by our best value $B(\eta_c(1S) \rightarrow K\bar{K}\pi) = (7.0 \pm 1.2) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\eta'_c K^+)/\Gamma_{\text{total}}$	Γ_{148}/Γ		
<u>VALUE (units 10^{-4})</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
3.4±1.8±0.3	257 AUBERT	06E BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

257 Perform measurements of absolute branching fractions using a missing mass technique.

$\Gamma(\eta_c K^+)/\Gamma(J/\psi(1S) K^+)$	$\Gamma_{147}/\Gamma_{149}$		
<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.33±0.10±0.43	258 AUBERT,B	04B BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

258 Uses BABAR measurement of $B(B^+ \rightarrow J/\psi K^+) = (10.1 \pm 0.3 \pm 0.5) \times 10^{-4}$.

$\Gamma(J/\psi(1S) K^+)/\Gamma_{\text{total}}$	Γ_{149}/Γ			
<u>VALUE (units 10^{-4})</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
10.07± 0.35 OUR FIT				
10.22± 0.35 OUR AVERAGE				
8.1 ± 1.3 ± 0.7	259	AUBERT	06E BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
10.61± 0.15±0.48	260	AUBERT	05J BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
10.1 ± 1.0 ± 0.3	261	AUBERT,B	05L BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
10.1 ± 0.2 ± 0.7	260	ABE	03B BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
10.2 ± 0.8 ± 0.7	260	JESSOP	97 CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
9.3 ± 3.1 ± 0.1	262	BORTOLETTO92	CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$
8.1 ± 3.5 ± 0.1	6	ALBRECHT	90J ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
10.1 ± 0.3 ± 0.5	260	AUBERT	02 BABR	Repl. by AUBERT 05J
11.0 ± 1.5 ± 0.9	59	260 ALAM	94 CLE2	Repl. by JESSOP 97
22 ± 10 ± 2		BUSKULIC	92G ALEP	$e^+ e^- \rightarrow Z$
7 ± 4	3	264 ALBRECHT	87D ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
10 ± 7 ± 2	3	265 BEBEK	87 CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$
9 ± 5	3	266 ALAM	86 CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$

259 Perform measurements of absolute branching fractions using a missing mass technique.

260 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

261 AUBERT,B 05L reports $[B(B^+ \rightarrow J/\psi(1S) K^+) \times B(J/\psi(1S) \rightarrow p\bar{p})] = (2.2 \pm 0.2 \pm 0.1) \times 10^{-6}$. We divide by our best value $B(J/\psi(1S) \rightarrow p\bar{p}) = (2.17 \pm 0.07) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

262 BORTOLETTO 92 reports $(8 \pm 2 \pm 2) \times 10^{-4}$ for $B(J/\psi(1S) \rightarrow e^+ e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \rightarrow e^+ e^-) = (5.94 \pm 0.06) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

263 ALBRECHT 90J reports $(7 \pm 3 \pm 1) \times 10^{-4}$ for $B(J/\psi(1S) \rightarrow e^+ e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \rightarrow e^+ e^-) = (5.94 \pm 0.06) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

264 ALBRECHT 87D assume $B^+ B^- / B^0 \bar{B}^0$ ratio is 55/45. Superseded by ALBRECHT 90J.
 265 BEBEK 87 value has been updated in BERKELMAN 91 to use same assumptions as
 noted for BORTOLETTO 92.
 266 ALAM 86 assumes B^\pm / B^0 ratio is 60/40.

$\Gamma(J/\psi(1S) K^+ \pi^+ \pi^-) / \Gamma_{\text{total}}$

Γ_{150} / Γ

VALUE (units 10^{-3})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
1.07 ± 0.19 OUR AVERAGE			Error includes scale factor of 1.9. See the ideogram below.		
1.16 ± 0.07 ± 0.09	267	AUBERT	05R BABR $e^+ e^- \rightarrow \gamma(4S)$		
0.69 ± 0.18 ± 0.12	268	ACOSTA	02F CDF $p\bar{p}$ 1.8 TeV		
1.39 ± 0.82 ± 0.01	269	BORTOLETTO92	CLEO $e^+ e^- \rightarrow \gamma(4S)$		
1.39 ± 0.91 ± 0.01	6	270 ALBRECHT	87D ARG $e^+ e^- \rightarrow \gamma(4S)$		

• • • We do not use the following data for averages, fits, limits, etc. • • •

<1.9 90 271 ALBRECHT 90J ARG $e^+ e^- \rightarrow \gamma(4S)$

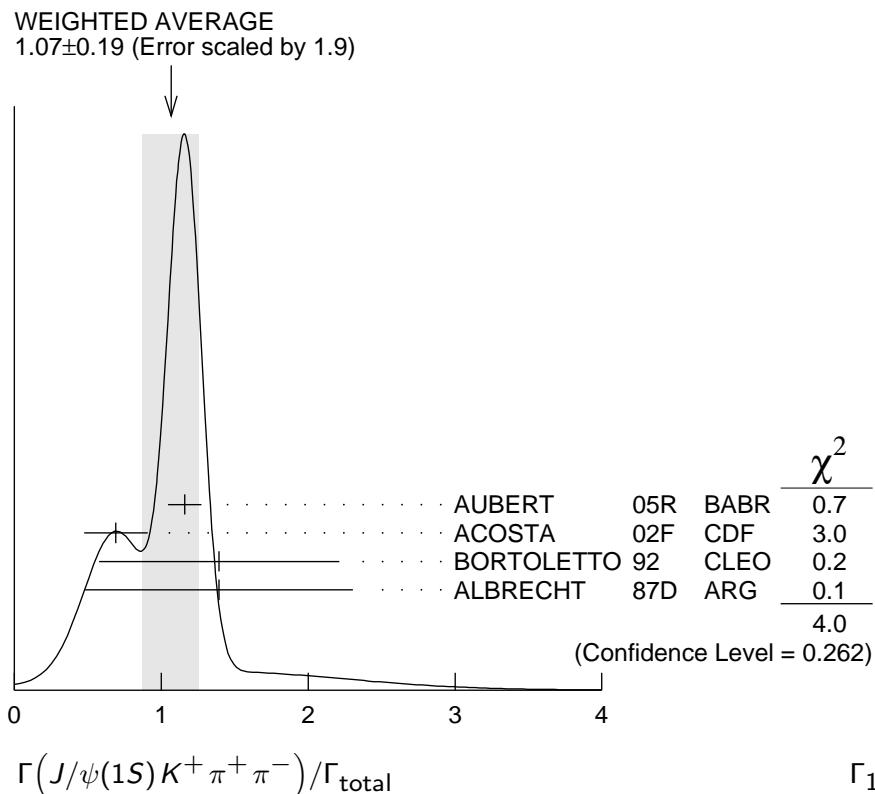
267 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

268 ACOSTA 02F uses as reference of $B(B \rightarrow J/\psi(1S) K^+) = (10.1 \pm 0.6) \times 10^{-4}$. The second error includes the systematic error and the uncertainties of the branching ratio.

269 BORTOLETTO 92 reports $(1.2 \pm 0.6 \pm 0.4) \times 10^{-3}$ for $B(J/\psi(1S) \rightarrow e^+ e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \rightarrow e^+ e^-) = (5.94 \pm 0.06) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

270 ALBRECHT 87D reports $(1.2 \pm 0.8) \times 10^{-3}$ for $B(J/\psi(1S) \rightarrow e^+ e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \rightarrow e^+ e^-) = (5.94 \pm 0.06) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. They actually report 0.0011 ± 0.0007 assuming $B^+ B^- / B^0 \bar{B}^0$ ratio is 55/45. We rescale to 50/50. Analysis explicitly removes $B^+ \rightarrow \psi(2S) K^+$.

271 ALBRECHT 90J reports $< 1.6 \times 10^{-3}$ for $B(J/\psi(1S) \rightarrow e^+ e^-) = 0.069$. We rescale to our best value $B(J/\psi(1S) \rightarrow e^+ e^-) = 0.0594$. Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.



$$\Gamma(h_c(1P)K^+ \times B(h_c(1P) \rightarrow J/\psi\pi^+\pi^-))/\Gamma_{\text{total}} \quad \Gamma_{151}/\Gamma$$

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<3.4 \times 10^{-6}$	90	272 AUBERT	05R BABR	$e^+e^- \rightarrow \gamma(4S)$

272 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$$\Gamma(X(3872)K^+)/\Gamma_{\text{total}} \quad \Gamma_{152}/\Gamma$$

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<3.2 \times 10^{-4}$	90	273 AUBERT	06E BABR	$e^+e^- \rightarrow \gamma(4S)$

273 Perform measurements of absolute branching fractions using a missing mass technique.

$$\Gamma(X(3872)K^+ \times B(X \rightarrow J/\psi\pi^+\pi^-))/\Gamma_{\text{total}} \quad \Gamma_{153}/\Gamma$$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
11.4±2.0 OUR AVERAGE			

10.1±2.5±1.0 274 AUBERT 06 BABR $e^+e^- \rightarrow \gamma(4S)$

13.0±2.9±0.7 275 CHOI 03 BELL $e^+e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

12.8±4.1 274 AUBERT 05R BABR Repl. by AUBERT 06

274 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

275 CHOI 03 reports $[B(B^+ \rightarrow X(3872)K^+) \times B(X \rightarrow J/\psi\pi^+\pi^-)] / B(B^+ \rightarrow \psi(2S)K^+) = 0.0200 \pm 0.0038 \pm 0.0023$. We multiply by our best value $B(B^+ \rightarrow \psi(2S)K^+) = (6.48 \pm 0.35) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(X(3872)K^+ \times B(X \rightarrow J/\psi\gamma))/\Gamma_{\text{total}}$ Γ_{154}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$3.3 \pm 1.0 \pm 0.3$	276 AUBERT,BE	06M BABR	$e^+e^- \rightarrow \gamma(4S)$

276 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(X(3872)K^+ \times B(X(3872) \rightarrow D^0\bar{D}^0))/\Gamma_{\text{total}}$ Γ_{155}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<6.0 \times 10^{-5}$	90	277 CHISTOV	04	BELL $e^+e^- \rightarrow \gamma(4S)$

277 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(X(3872)K^+ \times B(X(3872) \rightarrow D^+D^-))/\Gamma_{\text{total}}$ Γ_{156}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<4.0 \times 10^{-5}$	90	278 CHISTOV	04	BELL $e^+e^- \rightarrow \gamma(4S)$

278 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(X(3872)K^+ \times B(X(3872) \rightarrow D^0\bar{D}^0\pi^0))/\Gamma_{\text{total}}$ Γ_{157}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
$1.02 \pm 0.31 \begin{array}{l} +0.21 \\ -0.29 \end{array}$	279 GOKHROO	06	BELL	$e^+e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.6 90 280 CHISTOV 04 BELL Repl. by GOKHROO 06

279 Measure the near-threshold enhancements in the $(D^0\bar{D}^0\pi^0)$ system at a mass $3875.2 \pm 0.7^{+0.3}_{-1.6} \pm 0.8$ MeV/c².280 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(X(3872)K^+ \times B(X(3872) \rightarrow J/\psi(1S)\eta))/\Gamma_{\text{total}}$ Γ_{158}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<7.7 \times 10^{-6}$	90	281 AUBERT	04Y BABR	$e^+e^- \rightarrow \gamma(4S)$

281 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(X(3872)^+ K^0 \times B(X(3872)^+ \rightarrow J/\psi(1S)\pi^+\pi^0))/\Gamma_{\text{total}}$ Γ_{159}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<22	90	282 AUBERT	05B BABR	$e^+e^- \rightarrow \gamma(4S)$

282 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. The isovector-X hypothesis is excluded with a likelihood test at 1×10^{-4} level. $\Gamma(X(4260)^0 K^+ \times B(X^0 \rightarrow J/\psi\pi^+\pi^-))/\Gamma_{\text{total}}$ Γ_{160}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<29	95	283 AUBERT	06	BABR $e^+e^- \rightarrow \gamma(4S)$

283 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(X(3945)^0 K^+ \times B(X^0 \rightarrow J/\psi\gamma))/\Gamma_{\text{total}}$ Γ_{161}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<14	90	284 AUBERT,BE	06M BABR	$e^+e^- \rightarrow \gamma(4S)$

284 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(Z(3930)^0 K^+ \times B(Z^0 \rightarrow J/\psi \gamma)) / \Gamma_{\text{total}}$ Γ_{162}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<2.5	90	285 AUBERT,BE	06M BABR	$e^+ e^- \rightarrow \gamma(4S)$

285 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(J/\psi(1S) K^*(892)^+)/\Gamma_{\text{total}}$ Γ_{163}/Γ

For polarization information see the Listings at the end of the " B^0 Branching Ratios" section.

<u>VALUE</u> (units 10^{-3})	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.41 ± 0.08 OUR AVERAGE				

1.454 ± 0.047 ± 0.097		286 AUBERT	05J BABR	$e^+ e^- \rightarrow \gamma(4S)$
1.28 ± 0.07 ± 0.14		286 ABE	02N BELL	$e^+ e^- \rightarrow \gamma(4S)$
1.41 ± 0.23 ± 0.24		286 JESSOP	97 CLE2	$e^+ e^- \rightarrow \gamma(4S)$
1.58 ± 0.47 ± 0.27		287 ABE	96H CDF	$p\bar{p}$ at 1.8 TeV
1.51 ± 1.08 ± 0.02	2	288 BORTOLETTO92	CLEO	$e^+ e^- \rightarrow \gamma(4S)$
1.86 ± 1.30 ± 0.02		289 ALBRECHT	90J ARG	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

1.37 ± 0.09 ± 0.11		286 AUBERT	02 BABR	Repl. by AUBERT 05J
1.78 ± 0.51 ± 0.23	13	286 ALAM	94 CLE2	Sup. by JESSOP 97

286 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

287 ABE 96H assumes that $B(B^+ \rightarrow J/\psi K^+) = (1.02 \pm 0.14) \times 10^{-3}$.

288 BORTOLETTO 92 reports $(1.3 \pm 0.9 \pm 0.3) \times 10^{-3}$ for $B(J/\psi(1S) \rightarrow e^+ e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \rightarrow e^+ e^-) = (5.94 \pm 0.06) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

289 ALBRECHT 90J reports $(1.6 \pm 1.1 \pm 0.3) \times 10^{-3}$ for $B(J/\psi(1S) \rightarrow e^+ e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \rightarrow e^+ e^-) = (5.94 \pm 0.06) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(J/\psi(1S) K^*(892)^+)/\Gamma(J/\psi(1S) K^+)$ $\Gamma_{163}/\Gamma_{149}$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.39 ± 0.09 OUR AVERAGE			

1.37 ± 0.05 ± 0.08	AUBERT	05J BABR	$e^+ e^- \rightarrow \gamma(4S)$
1.45 ± 0.20 ± 0.17	290 JESSOP	97 CLE2	$e^+ e^- \rightarrow \gamma(4S)$
1.92 ± 0.60 ± 0.17	ABE	96Q CDF	$p\bar{p}$

• • • We do not use the following data for averages, fits, limits, etc. • • •

1.37 ± 0.10 ± 0.08	291 AUBERT	02 BABR	Repl. by AUBERT 05J
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290 JESSOP 97 assumes equal production of B^+ and B^0 at the $\gamma(4S)$. The measurement is actually measured as an average over kaon charged and neutral states.

291 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(J/\psi(1S) K(1270)^+)/\Gamma_{\text{total}}$ Γ_{164}/Γ

<u>VALUE</u> (units 10^{-3})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.80 ± 0.34 ± 0.39	292 ABE	01L BELL	$e^+ e^- \rightarrow \gamma(4S)$

292 Uses the PDG value of $B(B^+ \rightarrow J/\psi(1S) K^+) = (1.00 \pm 0.10) \times 10^{-3}$.

$\Gamma(J/\psi(1S)K(1400)^+)/\Gamma(J/\psi(1S)K(1270)^+)$ $\Gamma_{165}/\Gamma_{164}$

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.30	90	ABE	01L	BELL $e^+ e^- \rightarrow \gamma(4S)$

$\Gamma(J/\psi(1S)\eta K^+)/\Gamma_{\text{total}}$ Γ_{166}/Γ

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
10.8 ± 2.3 ± 2.4	293 AUBERT	04Y	BABR $e^+ e^- \rightarrow \gamma(4S)$

293 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(J/\psi(1S)\phi K^+)/\Gamma_{\text{total}}$ Γ_{167}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
(5.2 ± 1.7) × 10⁻⁵ OUR AVERAGE			Error includes scale factor of 1.2.

$(4.4 \pm 1.4 \pm 0.5) \times 10^{-5}$ 294 AUBERT 030 BABR $e^+ e^- \rightarrow \gamma(4S)$

$(8.8^{+3.5}_{-3.0} \pm 1.3) \times 10^{-5}$ 295 ANASTASSOV 00 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

294 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

295 ANASTASSOV 00 finds 10 events on a background of 0.5 ± 0.2 . Assumes equal production of B^0 and B^+ at the $\gamma(4S)$, a uniform Dalitz plot distribution, isotropic $J/\psi(1S)$ and ϕ decays, and $B(B^+ \rightarrow J/\psi(1S)\phi K^+) = B(B^0 \rightarrow J/\psi(1S)\phi K^0)$.

$\Gamma(J/\psi(1S)\pi^+)/\Gamma_{\text{total}}$ Γ_{168}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
(4.9 ± 0.6) × 10⁻⁵ OUR FIT			Error includes scale factor of 1.5.

(3.8 ± 0.6 ± 0.3) × 10⁻⁵ 296 ABE 03B BELL $e^+ e^- \rightarrow \gamma(4S)$

296 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(J/\psi(1S)\pi^+)/\Gamma(J/\psi(1S)K^+)$ $\Gamma_{168}/\Gamma_{149}$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.049 ± 0.006 OUR FIT				Error includes scale factor of 1.5.

0.053 ± 0.004 OUR AVERAGE

$0.0537 \pm 0.0045 \pm 0.0011$ AUBERT 04P BABR $e^+ e^- \rightarrow \gamma(4S)$

$0.05^{+0.019}_{-0.017} \pm 0.001$ ABE 96R CDF $p\bar{p}$ 1.8 TeV

0.052 ± 0.024 BISHAI 96 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$0.0391 \pm 0.0078 \pm 0.0019$ AUBERT 02F BABR Repl. by

AUBERT 04P
0.043 ± 0.023 5 297 ALEXANDER 95 CLE2 Sup. by BISHAI 96

297 Assumes equal production of $B^+ B^-$ and $B^0 \bar{B}^0$ on $\gamma(4S)$.

$\Gamma(J/\psi(1S)\rho^+)/\Gamma_{\text{total}}$ Γ_{169}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<7.7 × 10⁻⁴	90	BISHAI	96	CLE2 $e^+ e^- \rightarrow \gamma(4S)$

$\Gamma(J/\psi(1S)a_1(1260)^+)/\Gamma_{\text{total}}$ Γ_{170}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<1.2 × 10⁻³	90	BISHAI	96	CLE2 $e^+ e^- \rightarrow \gamma(4S)$

$\Gamma(J/\psi(1S)p\bar{\Lambda})/\Gamma_{\text{total}}$

Γ_{171}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
11.8 ± 3.1 OUR AVERAGE				
11.7 ± 2.8	$+1.8$ -2.3	298 XIE	05	BELL $e^+ e^- \rightarrow \gamma(4S)$
12	$+9$ -6	298 AUBERT	03K	BABR $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<41 90 ZANG 04 BELL $e^+ e^- \rightarrow \gamma(4S)$

298 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(J/\psi(1S)\Sigma^0 p)/\Gamma_{\text{total}}$

Γ_{172}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<1.1 \times 10^{-5}$	90	299 XIE	05	BELL $e^+ e^- \rightarrow \gamma(4S)$

299 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(J/\psi(1S)D^+)/\Gamma_{\text{total}}$

Γ_{173}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
<12	90	300 AUBERT	05U	BABR $e^+ e^- \rightarrow \gamma(4S)$

300 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(J/\psi(1S)\bar{D}^0\pi^+)/\Gamma_{\text{total}}$

Γ_{174}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
<2.5	90	301 ZHANG	05B	BELL $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<5.2 90 301 AUBERT 05R BABR $e^+ e^- \rightarrow \gamma(4S)$

301 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\psi(2S)K^+)/\Gamma_{\text{total}}$

Γ_{175}/Γ

VALUE (units 10^{-4})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
6.48 ± 0.35 OUR AVERAGE					

$4.9 \pm 1.6 \pm 0.4$			302 AUBERT	06E	BABR $e^+ e^- \rightarrow \gamma(4S)$
$6.17 \pm 0.32 \pm 0.44$			303 AUBERT	05J	BABR $e^+ e^- \rightarrow \gamma(4S)$
6.9 ± 0.6			303 ABE	03B	BELL $e^+ e^- \rightarrow \gamma(4S)$
$7.8 \pm 0.7 \pm 0.9$			303 RICHICHI	01	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
$5.5 \pm 1.0 \pm 0.6$			304 ABE	980	CDF $p\bar{p}$ 1.8 TeV
$18 \pm 8 \pm 4$	5	303 ALBRECHT	90J	ARG	$e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$6.4 \pm 0.5 \pm 0.8$			303 AUBERT	02	BABR Repl. by AUBERT 05J
$6.1 \pm 2.3 \pm 0.9$	7	303 ALAM	94	CLE2	Repl. by RICHICHI 01
<5	90	303 BORTOLETTO92	CLEO	$e^+ e^- \rightarrow \gamma(4S)$	
22 ± 17	3	305 ALBRECHT	87D	ARG	$e^+ e^- \rightarrow \gamma(4S)$

302 Perform measurements of absolute branching fractions using a missing mass technique.

303 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

304 ABE 980 reports $[B(B^+ \rightarrow \psi(2S)K^+)]/[B(B^+ \rightarrow J/\psi(1S)K^+)] = 0.558 \pm 0.082 \pm 0.056$. We multiply by our best value $B(B^+ \rightarrow J/\psi(1S)K^+) = (9.9 \pm 1.0) \times 10^{-4}$.

Our first error is their experiment's error and our second error is the systematic error from using our best value.

305 ALBRECHT 87D assume $B^+ B^- / B^0 \bar{B}^0$ ratio is 55/45. Superseded by ALBRECHT 90J.

$\Gamma(\psi(2S)K^+)/\Gamma(J/\psi(1S)K^+)$

$\Gamma_{175}/\Gamma_{149}$

VALUE	DOCUMENT ID	TECN	COMMENT
0.64±0.06±0.07	306 AUBERT	02 BABR	$e^+e^- \rightarrow \gamma(4S)$
306 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.			

$\Gamma(\psi(2S)K^*(892)^+)/\Gamma_{\text{total}}$

Γ_{176}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
6.7 ± 1.4 OUR AVERAGE				Error includes scale factor of 1.3.
5.92±0.85±0.89		307 AUBERT	05J BABR	$e^+e^- \rightarrow \gamma(4S)$
9.2 ± 1.9 ± 1.2		307 RICHICHI	01 CLE2	$e^+e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<30	90	307 ALAM	94 CLE2	Repl. by RICHICHI 01
<35	90	307 BORTOLETTO92	CLEO	$e^+e^- \rightarrow \gamma(4S)$
<49	90	307 ALBRECHT	90J ARG	$e^+e^- \rightarrow \gamma(4S)$

307 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\psi(2S)K^*(892)^+)/\Gamma(\psi(2S)K^+)$

$\Gamma_{176}/\Gamma_{175}$

VALUE	DOCUMENT ID	TECN	COMMENT
0.96±0.15±0.09	AUBERT	05J BABR	$e^+e^- \rightarrow \gamma(4S)$

$\Gamma(\psi(2S)K^+\pi^+\pi^-)/\Gamma_{\text{total}}$

Γ_{177}/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.0019±0.0011±0.0004	3	308 ALBRECHT	90J ARG	$e^+e^- \rightarrow \gamma(4S)$

308 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\psi(3770)K^+)/\Gamma_{\text{total}}$

Γ_{178}/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
0.49±0.13 OUR AVERAGE			
3.5 ± 2.5 ± 0.3	309 AUBERT	06E BABR	$e^+e^- \rightarrow \gamma(4S)$
0.48±0.11±0.07	310 CHISTOV	04 BELL	$e^+e^- \rightarrow \gamma(4S)$

309 Perform measurements of absolute branching fractions using a missing mass technique.
 310 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\psi(3770)K^+ \times \mathcal{B}(\psi(3770) \rightarrow D^0\bar{D}^0))/\Gamma_{\text{total}}$

Γ_{179}/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
0.34±0.08±0.05	311 CHISTOV	04 BELL	$e^+e^- \rightarrow \gamma(4S)$

311 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\psi(3770)K^+ \times \mathcal{B}(\psi(3770) \rightarrow D^+D^-K^+))/\Gamma_{\text{total}}$

Γ_{180}/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
0.14±0.08±0.02	312 CHISTOV	04 BELL	$e^+e^- \rightarrow \gamma(4S)$

312 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\chi_{c0}\pi^+ \times \mathcal{B}(\chi_{c0} \rightarrow \pi^+\pi^-))/\Gamma_{\text{total}}$

Γ_{181}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<0.3	90	313 AUBERT,B	05G BABR	$e^+e^- \rightarrow \gamma(4S)$

313 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\chi_{c0}(1P)K^+)/\Gamma_{\text{total}}$ Γ_{182}/Γ

<u>VALUE</u> (units 10^{-4})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
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1.40 $^{+0.23}_{-0.19}$ OUR AVERAGE

1.84 $\pm 0.32 \pm 0.31$	314	AUBERT	060	BABR	$e^+e^- \rightarrow \gamma(4S)$
4.6 $\pm 2.1 \pm 0.4$	316	AUBERT,BE	06M	BABR	$e^+e^- \rightarrow \gamma(4S)$
1.12 $\pm 0.12^{+0.30}_{-0.20}$	315	GARMASH	06	BELL	$e^+e^- \rightarrow \gamma(4S)$
1.39 $\pm 0.49 \pm 0.11$	317	AUBERT,B	05N	BABR	$e^+e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.8	90	318	AUBERT	06E	BABR $e^+e^- \rightarrow \gamma(4S)$
<8.9	90	315	AUBERT	05K	BABR $e^+e^- \rightarrow \gamma(4S)$
1.96 $\pm 0.35^{+2.00}_{-0.42}$	315	GARMASH	05	BELL	Repl. by GARMASH 06
2.7 ± 0.7	319	AUBERT	04T	BABR	Repl. by AUBERT,B 04P
3.0 $\pm 0.8 \pm 0.3$	320	AUBERT,B	04P	BABR	Repl. by AUBERT,B 05N
6.0 $\pm 2.1 \pm 1.1$	321	ABE	02B	BELL	Repl. by GARMASH 05
<4.8	90	322	EDWARDS	01	CLE2 $e^+e^- \rightarrow \gamma(4S)$

314 Measured in the $B^+ \rightarrow K^+ K^- K^+$ decay.

315 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

316 AUBERT,BE 06M reports $[B(B^+ \rightarrow \chi_{c0}(1P)K^+) \times B(\chi_{c0}(1P) \rightarrow \gamma J/\psi(1S))] = (6.1 \pm 2.6 \pm 1.1) \times 10^{-6}$. We divide by our best value $B(\chi_{c0}(1P) \rightarrow \gamma J/\psi(1S)) = (1.32 \pm 0.11) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. The significance of the observed signal is 2.4σ .

317 AUBERT,B 05N reports $(0.66 \pm 0.22 \pm 0.08) \times 10^{-6}$ for $B(B^+ \rightarrow \chi_c^0 K^+) \times B(\chi_c^0 \rightarrow \pi^+ \pi^-)$. We compute $B(B^+ \rightarrow \chi_c^0 K^+)$ using the PDG value $B(\chi_c^0 \rightarrow \pi^+ \pi^-) = (7.1 \pm 0.6) \times 10^{-3}$ and $2/3$ for the $\pi^+ \pi^-$ fraction.

318 Perform measurements of absolute branching fractions using a missing mass technique.

319 The measurement performed using decay channels $\chi_c^0 \rightarrow \pi^+ \pi^-$ and $\chi_c^0 \rightarrow K^+ K^-$. The ratio of the branching ratios for these channels is found to be consistent with world average.

320 AUBERT 04P reports $B(B^+ \rightarrow \chi_c^0 K^+) \times B(\chi_c^0 \rightarrow \pi^+ \pi^-) = (1.5 \pm 0.4 \pm 0.1) \times 10^{-6}$ and used PDG value of $B(\chi_c^0 \rightarrow \pi \pi) = (7.4 \pm 0.8) \times 10^{-3}$ and Clebsh-Gordan coefficient to compute $B(B^+ \rightarrow \chi_c^0 K^+)$.

321 ABE 02B measures the ratio of $B(B^+ \rightarrow \chi_c^0 K^+)/B(B^+ \rightarrow J/\psi(1S) K^+) = 0.60 + 0.21 - 0.18 \pm 0.05 \pm 0.08$, where the third error is due to the uncertainty in the $B(\chi_c^0 \rightarrow \pi^+ \pi^-)$, and uses $B(B^+ \rightarrow J/\psi(1S) K^+) = (10.0 \pm 1.0) \times 10^{-4}$ to obtain the result.

322 EDWARDS 01 assumes equal production of B^0 and B^+ at the $\gamma(4S)$. The correlated uncertainties (28.3)% from $B(J/\psi(1S) \rightarrow \gamma \eta_c)$ in those modes have been accounted for.

 $\Gamma(\chi_{c0} K^*(892)^+)/\Gamma_{\text{total}}$ Γ_{183}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$<2.86 \times 10^{-3}$	90	323	AUBERT	05K BABR $e^+e^- \rightarrow \gamma(4S)$

323 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\chi_{c2} K^+)/\Gamma_{\text{total}}$

Γ_{184}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<2.9 \times 10^{-5}$	90	324 SONI	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
$<2.0 \times 10^{-4}$	90	325 AUBERT	06E	BABR $e^+ e^- \rightarrow \gamma(4S)$
$<3.0 \times 10^{-5}$	90	324 AUBERT	05K	BABR Repl. by AUBERT 06E

324 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

325 Perform measurements of absolute branching fractions using a missing mass technique.

$\Gamma(\chi_{c2} K^*(892)^+)/\Gamma_{\text{total}}$

Γ_{185}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<1.2 \times 10^{-5}$	90	326 AUBERT	05K	BABR $e^+ e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
$<1.27 \times 10^{-4}$	90	326 SONI	06	BELL $e^+ e^- \rightarrow \gamma(4S)$

326 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\chi_{c1}(1P)\pi^+)/\Gamma_{\text{total}}$

Γ_{186}/Γ

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
$2.2 \pm 0.4 \pm 0.3$	327 KUMAR	06	BELL $e^+ e^- \rightarrow \gamma(4S)$

327 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\chi_{c1}(1P)K^+)/\Gamma_{\text{total}}$

Γ_{187}/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
4.9 \pm 0.5 OUR AVERAGE				Error includes scale factor of 1.5. See the ideogram below.
8.1 \pm 1.4 \pm 0.7		328 AUBERT	06E	BABR $e^+ e^- \rightarrow \gamma(4S)$
4.9 \pm 0.4 \pm 0.3		329 AUBERT,BE	06M	BABR $e^+ e^- \rightarrow \gamma(4S)$
4.49 \pm 0.19 \pm 0.53		330 SONI	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
15.5 \pm 5.4 \pm 2.0		331 ACOSTA	02F	CDF $p\bar{p}$ 1.8 TeV
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
5.79 \pm 0.26 \pm 0.65		330 AUBERT	05J	BABR Repl. by AUBERT,BE 06M
5.7 \pm 0.9 \pm 0.3		332 AUBERT	02	BABR Repl. by AUBERT 05J
9.7 \pm 4.0 \pm 0.9	6	330 ALAM	94	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
19 \pm 13 \pm 6		333 ALBRECHT	92E	ARG $e^+ e^- \rightarrow \gamma(4S)$

328 Perform measurements of absolute branching fractions using a missing mass technique.

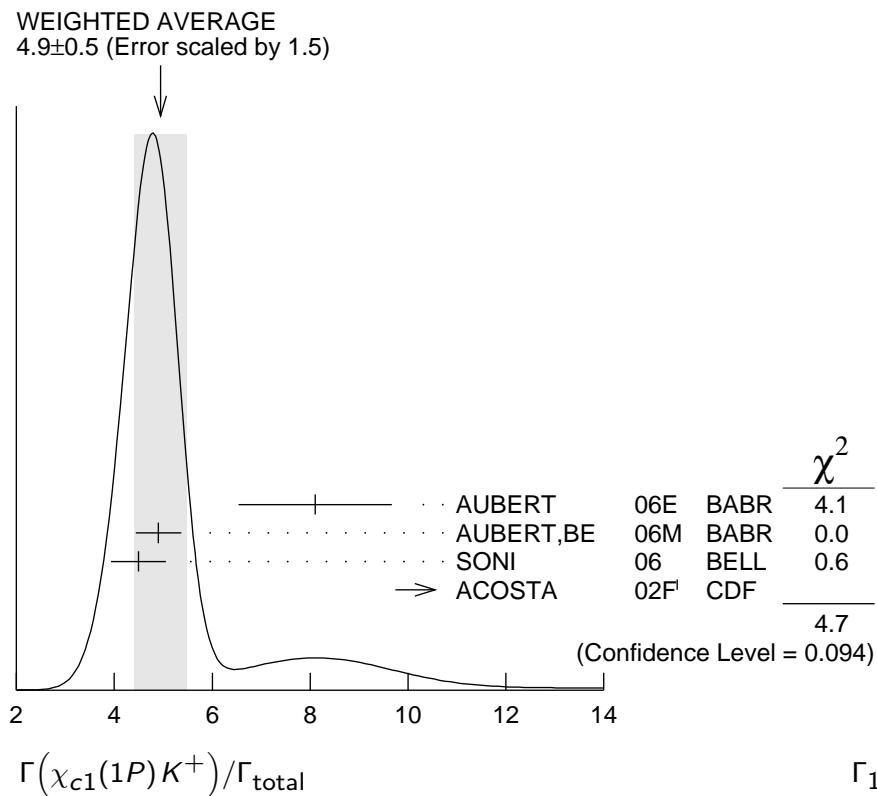
329 AUBERT,BE 06M reports $[B(B^+ \rightarrow \chi_{c1}(1P)K^+) \times B(\chi_{c1}(1P) \rightarrow \gamma J/\psi(1S))] = (1.76 \pm 0.07 \pm 0.12) \times 10^{-4}$. We divide by our best value $B(\chi_{c1}(1P) \rightarrow \gamma J/\psi(1S)) = (35.9 \pm 1.9) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

330 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

331 ACOSTA 02F uses as reference of $B(B \rightarrow J/\psi(1S)K^+) = (10.1 \pm 0.6) \times 10^{-4}$. The second error includes the systematic error and the uncertainties of the branching ratio.

332 AUBERT 02 reports $(7.5 \pm 0.9 \pm 0.8) \times 10^{-4}$ for $B(\chi_{c1}(1P) \rightarrow \gamma J/\psi(1S)) = 0.273 \pm 0.016$. We rescale to our best value $B(\chi_{c1}(1P) \rightarrow \gamma J/\psi(1S)) = (35.9 \pm 1.9) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

333 ALBRECHT 92E assumes no $\chi_{c2}(1P)$ production and $B(\gamma(4S) \rightarrow B^+ B^-) = 50\%$.



$\Gamma(\chi_{c1}(1P)K^+)/\Gamma(J/\psi(1S)K^+)$

$\Gamma_{187}/\Gamma_{149}$

VALUE	DOCUMENT ID	TECN	COMMENT
0.57±0.06±0.03	334 AUBERT	02 BABR	$e^+e^- \rightarrow \gamma(4S)$

334 AUBERT 02 reports $0.75 \pm 0.08 \pm 0.05$ for $B(\chi_{c1}(1P) \rightarrow \gamma J/\psi(1S)) = 0.273 \pm 0.016$.

We rescale to our best value $B(\chi_{c1}(1P) \rightarrow \gamma J/\psi(1S)) = (35.9 \pm 1.9) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\chi_{c1}(1P)\pi^+)/\Gamma(\chi_{c1}(1P)K^+)$

$\Gamma_{186}/\Gamma_{187}$

VALUE	DOCUMENT ID	TECN	COMMENT
0.043±0.008±0.003	335 KUMAR	06 BELL	$e^+e^- \rightarrow \gamma(4S)$

335 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\chi_{c1}(1P)K^*(892)^+)/\Gamma_{\text{total}}$

Γ_{188}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
3.6 ±0.9 OUR AVERAGE				
4.05±0.59±0.95		336 SONI	06 BELL	$e^+e^- \rightarrow \gamma(4S)$
2.94±0.95±0.98		336 AUBERT	05J BABR	$e^+e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<21 90 336 ALAM 94 CLE2 $e^+e^- \rightarrow \gamma(4S)$

336 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\chi_{c1}(1P)K^*(892)^+)/\Gamma(\chi_{c1}(1P)K^+)$

$\Gamma_{188}/\Gamma_{187}$

VALUE	DOCUMENT ID	TECN	COMMENT
0.51±0.17±0.16	AUBERT	05J BABR	$e^+e^- \rightarrow \gamma(4S)$

$\Gamma(h_c K^+)/\Gamma_{\text{total}}$ Γ_{189}/Γ

<u>VALUE (units 10^{-5})</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<3.8	90	337 FANG	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
337 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and $B(h_c \rightarrow \eta_c \gamma) = 50\%$.				

 $\Gamma(K^0 \pi^+)/\Gamma_{\text{total}}$ Γ_{190}/Γ

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
23.0 ± 1.2 OUR AVERAGE				
23.9 \pm 1.1 \pm 1.0		338 AUBERT,BE	06C	BABR $e^+ e^- \rightarrow \gamma(4S)$
22.0 \pm 1.9 \pm 1.1		338 CHAO	04	BELL $e^+ e^- \rightarrow \gamma(4S)$
18.8 $^{+3.7}_{-3.3} \pm 2.1$		338 BORNHEIM	03	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
26.0 \pm 1.3 \pm 1.0		338 AUBERT,BE	05E	BABR Repl. by AUBERT,BE 06C
22.3 \pm 1.7 \pm 1.1		338 AUBERT	04M	BABR Repl. by AUBERT,BE 05E
19.4 $^{+3.1}_{-3.0} \pm 1.6$		338 CASEY	02	BELL Repl. by CHAO 04
13.7 $^{+5.7}_{-4.8} \pm 1.9$		338 ABE	01H	BELL Repl. by CASEY 02
18.2 $^{+3.3}_{-3.0} \pm 2.0$		338 AUBERT	01E	BABR Repl. by AUBERT 04M
18.2 $^{+4.6}_{-4.0} \pm 1.6$		338 CRONIN-HEN..00	CLE2	Repl. by BORNHEIM 03
23 $^{+11}_{-10} \pm 3.6$		GODANG	98	CLE2 Repl. by CRONIN-HENNESSY 00
< 48	90	ASNER	96	CLE2 Repl. by GODANG 98
<190	90	ALBRECHT	91B	ARG $e^+ e^- \rightarrow \gamma(4S)$
<100	90	339 Avery	89B	CLEO $e^+ e^- \rightarrow \gamma(4S)$
<680	90	AVERY	87	CLEO $e^+ e^- \rightarrow \gamma(4S)$

338 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.339 Avery 89B reports $< 9 \times 10^{-5}$ assuming the $\gamma(4S)$ decays 43% to $B^0 \bar{B}^0$. We rescale to 50%. $\Gamma(K^+ \pi^0)/\Gamma_{\text{total}}$ Γ_{191}/Γ

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
12.1 ± 0.8 OUR AVERAGE				
12.0 $\pm 0.7 \pm 0.6$		340 AUBERT	05L	BABR $e^+ e^- \rightarrow \gamma(4S)$
12.0 $\pm 1.3 \pm 0.9$		340 CHAO	04	BELL $e^+ e^- \rightarrow \gamma(4S)$
12.9 $^{+2.4}_{-2.2} \pm 1.2$		340 BORNHEIM	03	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
12.8 $^{+1.2}_{-1.1} \pm 1.0$		340 AUBERT	03L	BABR Repl. by AUBERT 05L
13.0 $^{+2.5}_{-2.4} \pm 1.3$		340 CASEY	02	BELL Repl. by CHAO 04
16.3 $^{+3.5}_{-3.3} \pm 1.8$		340 ABE	01H	BELL Repl. by CASEY 02
10.8 $^{+2.1}_{-1.9} \pm 1.0$		340 AUBERT	01E	BABR Repl. by AUBERT 03L

$11.6^{+3.0+1.4}_{-2.7-1.3}$	340	CRONIN-HEN..00	CLE2	Repl. by BORN-HEIM 03
<16	90	GODANG	98	CLE2 Repl. by CRONIN-HENNESSY 00
<14	90	ASNER	96	CLE2 Repl. by GODANG 98

340 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^+\pi^0)/\Gamma(K^0\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT	$\Gamma_{191}/\Gamma_{190}$
$2.38^{+0.98+0.39}_{-1.10-0.26}$	ABE	01H BELL	$e^+e^- \rightarrow \gamma(4S)$	

$\Gamma(\eta' K^+)/\Gamma_{\text{total}}$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT	Γ_{192}/Γ
69.7 \pm 2.8 OUR AVERAGE				
69.2 \pm 2.2 \pm 3.7	341 SCHUEMANN 06	BELL	$e^+e^- \rightarrow \gamma(4S)$	
68.9 \pm 2.0 \pm 3.2	341 AUBERT 05M	BABR	$e^+e^- \rightarrow \gamma(4S)$	
80 \pm 10 \pm 7	341 RICHICHI 00	CLE2	$e^+e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

76.9 \pm 3.5 \pm 4.4	341 AUBERT	03W BABR	Repl. by AUBERT 05M
79 \pm 12 \pm 9	341 ABE	01M BELL	Repl. by SCHUEMANN 06
70 \pm 8 \pm 5	341 AUBERT	01G BABR	Repl. by AUBERT 03W
65 \pm 15 \pm 9	BEHRENS 98	CLE2	Repl. by RICHICHI 00

341 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\eta' K^*(892)^+)/\Gamma_{\text{total}}$

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT	Γ_{193}/Γ
$4.9^{+1.9}_{-1.7} \pm 0.8$		342 AUBERT	07E BABR	$e^+e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

<14	90	342 AUBERT,B	04D BABR	Repl. by AUBERT 07E
<35	90	342 RICHICHI	00 CLE2	$e^+e^- \rightarrow \gamma(4S)$
<13	90	BEHRENS	98 CLE2	Repl. by RICHICHI 00

342 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

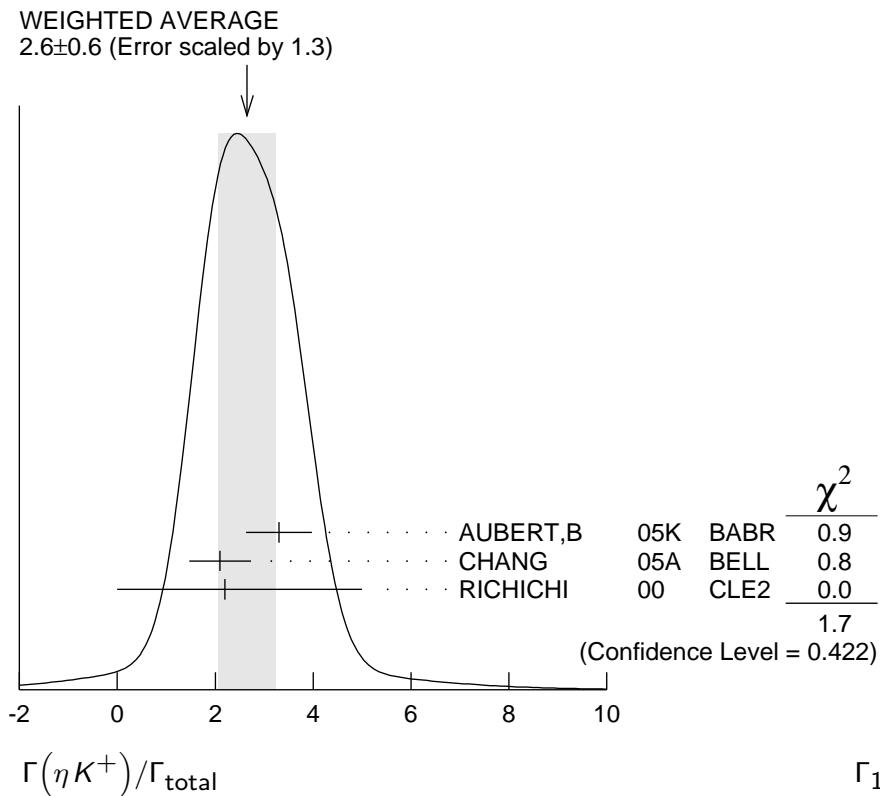
$\Gamma(\eta K^+)/\Gamma_{\text{total}}$

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT	Γ_{194}/Γ
2.6 \pm 0.6 OUR AVERAGE				Error includes scale factor of 1.3. See the ideogram below.	
3.3 \pm 0.6 \pm 0.3		343 AUBERT,B	05K BABR	$e^+e^- \rightarrow \gamma(4S)$	
2.1 \pm 0.6 \pm 0.2		343 CHANG	05A BELL	$e^+e^- \rightarrow \gamma(4S)$	
2.2 \pm 2.8 \pm 2.2		343 RICHICHI	00 CLE2	$e^+e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

3.4 \pm 0.8 \pm 0.2	343 AUBERT	04H BABR	Repl. by AUBERT,B 05K
<14	90	BEHRENS	98 CLE2

343 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.



$\Gamma(\eta K^*(892)^+)/\Gamma_{\text{total}}$

Γ_{195}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
19.3±2.2 OUR AVERAGE				
18.9±1.8±1.3		344 AUBERT,B	06H BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
26.4 ^{+9.6} _{-8.2} ±3.3		344 RICHICHI	00 CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
25.6±4.0±2.4		344 AUBERT,B	04D BABR	Repl. by AUBERT,B 06H
<30	90	BEHRENS	98 CLE2	Repl. by RICHICHI 00

344 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\eta K_0^*(1430)^+)/\Gamma_{\text{total}}$

Γ_{196}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
18.2±2.6±2.6	345 AUBERT,B	06H BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

345 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\eta K_2^*(1430)^+)/\Gamma_{\text{total}}$

Γ_{197}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
9.1±2.7±1.4	346 AUBERT,B	06H BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

346 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\omega K^+)/\Gamma_{\text{total}}$

Γ_{198}/Γ

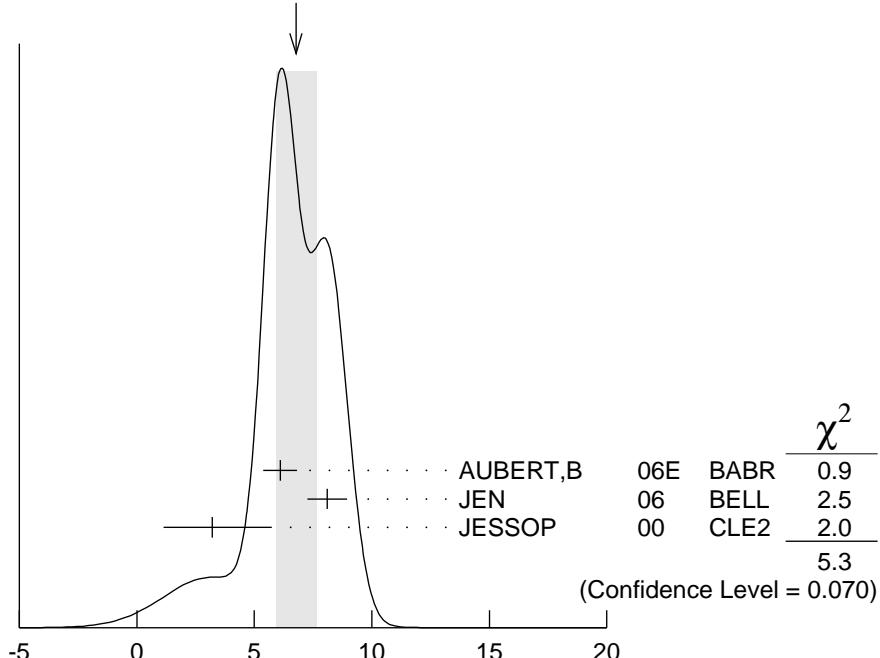
VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
6.8±0.9 OUR AVERAGE				Error includes scale factor of 1.6. See the ideogram below.
6.1±0.6±0.4	347	AUBERT,B	06E	BABR $e^+ e^- \rightarrow \gamma(4S)$
8.1±0.6±0.6	347	JEN	06	BELL $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

4.8±0.8±0.4	347	AUBERT	04H	BABR Repl. by AUBERT,B 06E
6.5 $^{+1.3}_{-1.2}$ ±0.6	347	WANG	04A	BELL Repl. by JEN 06
9.2 $^{+2.6}_{-2.3}$ ±1.0	347	LU	02	BELL Repl. by WANG 04A
<4	90	AUBERT	01G	BABR $e^+ e^- \rightarrow \gamma(4S)$
1.5 $^{+7}_{-6}$ ±2	347	BERGFELD	98	CLE2 Repl. by JESSOP 00

347 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

WEIGHTED AVERAGE
6.8±0.9 (Error scaled by 1.6)



$\Gamma(\omega K^+)/\Gamma_{\text{total}}$

Γ_{198}/Γ

$\Gamma(\omega K^*(892)^+)/\Gamma_{\text{total}}$

Γ_{199}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
< 3.4	90	348	AUBERT,B	06T BABR $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

< 7.4	90	348	AUBERT	050 BABR Repl. by AUBERT,B 06T
<87	90	348	BERGFELD	98 CLE2

348 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(a_0^0 K^+)/\Gamma_{\text{total}}$ Γ_{201}/Γ

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<2.5	90	349 AUBERT,BE	04	BABR $e^+ e^- \rightarrow \Upsilon(4S)$

349 Assumes equal production of charged and neutral B mesons from $\Upsilon(4S)$ decays. $\Gamma(a_0^+ K^0)/\Gamma_{\text{total}}$ Γ_{200}/Γ

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<3.9	90	350 AUBERT,BE	04	BABR $e^+ e^- \rightarrow \Upsilon(4S)$

350 Assumes equal production of charged and neutral B mesons from $\Upsilon(4S)$ decays. $\Gamma(K^*(892)^0 \pi^+)/\Gamma_{\text{total}}$ Γ_{202}/Γ

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
10.9 ± 1.8 OUR AVERAGE				Error includes scale factor of 2.1.

9.67 ± 0.64 $^{+0.81}_{-0.89}$ 351 GARMASH 06 BELL $e^+ e^- \rightarrow \Upsilon(4S)$ 13.5 ± 1.2 $^{+0.8}_{-0.9}$ 351 AUBERT,B 05N BABR $e^+ e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

9.8 ± 0.9 $^{+1.1}_{-1.2}$ 351 GARMASH 05 BELL Repl. by GARMASH 0615.5 ± 1.8 $^{+1.5}_{-4.0}$ 351,352 AUBERT,B 04P BABR Repl. by AUBERT,B 05N19.4 $^{+4.2}_{-3.9}$ $^{+4.1}_{-7.1}$ 353 GARMASH 02 BELL Repl. by GARMASH 05<119 90 354 ABE 00C SLD $e^+ e^- \rightarrow Z$ < 16 90 351 JESSOP 00 CLE2 $e^+ e^- \rightarrow \Upsilon(4S)$ <390 90 355 ADAM 96D DLPH $e^+ e^- \rightarrow Z$

< 41 90 ASNER 96 CLE2 Repl. by JESSOP 00

<480 90 355 ABREU 95N DLPH Sup. by ADAM 96D

<170 90 ALBRECHT 91B ARG $e^+ e^- \rightarrow \Upsilon(4S)$ <150 90 356 AVERY 89B CLEO $e^+ e^- \rightarrow \Upsilon(4S)$ <260 90 AVERY 87 CLEO $e^+ e^- \rightarrow \Upsilon(4S)$ 351 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.352 AUBERT 04P also report a branching ratio for $B^+ \rightarrow$ "higher K^* resonances" π^+ , $K^* \rightarrow K^+ \pi^-$, $(25.1 \pm 2.0 \pm 11.0) \times 10^{-6}$.353 Uses a reference decay mode $B^+ \rightarrow \bar{D}^0 \pi^+$ and $\bar{D}^0 \rightarrow K^+ \pi^-$ with $B(B^+ \rightarrow \bar{D}^0 \pi^+) \cdot B(\bar{D}^0 \rightarrow K^+ \pi^-) = (20.3 \pm 2.0) \times 10^{-5}$.354 ABE 00C assumes $B(Z \rightarrow b\bar{b}) = (21.7 \pm 0.1)\%$ and the B fractions $f_{B^0} = f_{B^+} = (39.7 \pm 1.8)\%$ and $f_{B_s} = (10.5 \pm 1.8)\%$.355 Assumes a B^0 , B^- production fraction of 0.39 and a B_s production fraction of 0.12.356 AVERY 89B reports $< 1.3 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0 \bar{B}^0$. We rescale to 50%. $\Gamma(K^*(892)^+ \pi^0)/\Gamma_{\text{total}}$ Γ_{203}/Γ

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
6.9 ± 2.0 ± 1.3		357 AUBERT	05X BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<31 90 357 JESSOP 00 CLE2 $e^+ e^- \rightarrow \Upsilon(4S)$

<99 90 ASNER 96 CLE2 Repl. by JESSOP 00

357 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(K^+\pi^-\pi^+)/\Gamma_{\text{total}}$ Γ_{204}/Γ

VALUE (units 10^{-6})		DOCUMENT ID	TECN	COMMENT	
55 ± 7 OUR AVERAGE	Error includes scale factor of 2.6.				
48.8 $\pm 1.1 \pm 3.6$	358 GARMASH	06	BELL	$e^+e^- \rightarrow \Upsilon(4S)$	
64.1 $\pm 2.4 \pm 4.0$	358 AUBERT,B	05N	BABR	$e^+e^- \rightarrow \Upsilon(4S)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
46.6 $\pm 2.1 \pm 4.3$	358 GARMASH	05	BELL	Repl. by GARMASH 06	
53.6 $\pm 3.1 \pm 5.1$	358 GARMASH	04	BELL	Repl. by GARMASH 05	
59.1 $\pm 3.8 \pm 3.2$	359 AUBERT	03M	BABR	Repl. by AUBERT,B 05N	
55.6 $\pm 5.8 \pm 7.7$	360 GARMASH	02	BELL	Repl. by GARMASH 04	
358 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.					
359 Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$; charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.					
360 Uses a reference decay mode $B^+ \rightarrow \bar{D}^0\pi^+$ and $\bar{D}^0 \rightarrow K^+\pi^-$ with $B(B^+ \rightarrow \bar{D}^0\pi^+) \cdot B(\bar{D}^0 \rightarrow K^+\pi^-) = (20.3 \pm 2.0) \times 10^{-5}$.					

$\Gamma(K^+\pi^-\pi^+\text{nonresonant})/\Gamma_{\text{total}}$ Γ_{205}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT	
6 ± 6 OUR AVERAGE	Error includes scale factor of 6.1.				
16.9 $\pm 1.3 \pm 1.7$	361 GARMASH	06	BELL	$e^+e^- \rightarrow \Upsilon(4S)$	
2.9 $\pm 0.6 \pm 0.8$	361 AUBERT,B	05N	BABR	$e^+e^- \rightarrow \Upsilon(4S)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
17.3 $\pm 1.7 \pm 17.2$	361 GARMASH	05	BELL	Repl. by GARMASH 06	
< 17	90	361 AUBERT,B	04P	BABR Repl. by AUBERT,B 05N	
< 330	90	362 ADAM	96D	DLPH $e^+e^- \rightarrow Z$	
< 28	90	BERGFELD	96B	CLE2 $e^+e^- \rightarrow \Upsilon(4S)$	
< 400	90	362 ABREU	95N	DLPH Sup. by ADAM 96D	
< 330	90	ALBRECHT	91E	ARG $e^+e^- \rightarrow \Upsilon(4S)$	
< 190	90	363 AVERY	89B	CLEO $e^+e^- \rightarrow \Upsilon(4S)$	
361 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.					
362 Assumes a B^0 , B^- production fraction of 0.39 and a B_s production fraction of 0.12.					
363 AVERY 89B reports $< 1.7 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\bar{B}^0$. We rescale to 50%.					

$\Gamma(K^+ f_0(980) \times B(f_0 \rightarrow \pi^+\pi^-))/\Gamma_{\text{total}}$ Γ_{206}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT	
9.2 ± 0.8 OUR AVERAGE					
8.78 $\pm 0.82 \pm 0.85$	364 GARMASH	06	BELL	$e^+e^- \rightarrow \Upsilon(4S)$	
9.47 $\pm 0.97 \pm 0.62$	364 AUBERT,B	05N	BABR	$e^+e^- \rightarrow \Upsilon(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

$7.55 \pm 1.24^{+1.63}_{-1.18}$	364	GARMASH	05	BELL	Repl. by GARMASH 06
$9.2 \pm 1.2^{+2.1}_{-2.6}$	365	AUBERT,B	04P	BABR	Repl. by AUBERT,B 05N
$9.6^{+2.5}_{-2.3} {}^{+3.7}_{-1.7}$	366	GARMASH	02	BELL	Repl. by GARMASH 05
<80	90	367	AVERY	89B	CLEO $e^+ e^- \rightarrow \gamma(4S)$

364 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

365 AUBERT,B 04P also reports $B(B^+ \rightarrow \text{higher } f_0 \text{ resonances}) \pi^+, f(980)^0 \rightarrow \pi^+ \pi^-$
 $= (3.2 \pm 1.2^{+6.0}_{-2.9}) \times 10^{-6}$.

366 Uses a reference decay mode $B^+ \rightarrow \bar{D}^0 \pi^+$ and $\bar{D}^0 \rightarrow K^+ \pi^-$ with $B(B^+ \rightarrow \bar{D}^0 \pi^+) \times B(\bar{D}^0 \rightarrow K^+ \pi^-) = (20.3 \pm 2.0) \times 10^{-5}$. Only charged pions from the $f_0(980)$ are used.

367 AVERY 89B reports $< 7 \times 10^{-5}$ assuming the $\gamma(4S)$ decays 43% to $B^0 \bar{B}^0$. We rescale to 50%.

$\Gamma(f_2(1270)^0 K^+)/\Gamma_{\text{total}}$ Γ_{207}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT	
$1.33 \pm 0.30^{+0.23}_{-0.34}$	368	GARMASH	06	BELL $e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

<16	90	369	AUBERT,B	05N	BABR $e^+ e^- \rightarrow \gamma(4S)$
< 2.3	90	370	GARMASH	05	BELL Repl. by GARMASH 06

368 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

369 AUBERT,B 05N reports 8.9×10^{-6} at 90% CL for $B(B^+ \rightarrow f_2(1270)\pi^+) \times B(f_2(1270) \rightarrow \pi^+ \pi^-)$. We rescaled it using the PDG value $B(f_2(1270) \rightarrow \pi\pi) = 84.7\%$ and 2/3 for the $K^+ \pi^-$ fraction.

370 GARMASH 05 reports 1.3×10^{-6} at 90% CL for $B(B^+ \rightarrow f_2(1270)\pi^+) \times B(f_2(1270) \rightarrow \pi^+ \pi^-)$. We rescaled it using the PDG value $B(f_2(1270) \rightarrow \pi\pi) = 84.7\%$ and 2/3 for the $\pi^+ \pi^-$ fraction.

$\Gamma(f_0(1370)^0 K^+ \times B(f_0(1370)^0 \rightarrow \pi^+ \pi^-))/\Gamma_{\text{total}}$ Γ_{208}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
$<10.7 \times 10^{-6}$	90	371	AUBERT,B	05N	BABR $e^+ e^- \rightarrow \gamma(4S)$

371 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\rho^0(1450) K^+ \times B(\rho^0(1450) \rightarrow \pi^+ \pi^-))/\Gamma_{\text{total}}$ Γ_{209}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
$<11.7 \times 10^{-6}$	90	372	AUBERT,B	05N	BABR $e^+ e^- \rightarrow \gamma(4S)$

372 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(f_0(1500) K^+ \times B(f_0(1500) \rightarrow \pi^+ \pi^-))/\Gamma_{\text{total}}$ Γ_{210}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
$<4.4 \times 10^{-6}$	90	373	AUBERT,B	05N	BABR $e^+ e^- \rightarrow \gamma(4S)$

373 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(f'_2(1525)K^+ \times B(f'_2(1525) \rightarrow \pi^+\pi^-))/\Gamma_{\text{total}}$ Γ_{211}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<3.4 \times 10^{-6}$	90	374 AUBERT,B	05N BABR	$e^+e^- \rightarrow \gamma(4S)$

374 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^+\rho^0)/\Gamma_{\text{total}}$ Γ_{212}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
4.2 ±0.5 OUR AVERAGE				

$3.89 \pm 0.47^{+0.43}_{-0.41}$	375 GARMASH	06 BELL	$e^+e^- \rightarrow \gamma(4S)$	
$5.07 \pm 0.75^{+0.55}_{-0.88}$	375 AUBERT,B	05N BABR	$e^+e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

$4.78 \pm 0.75^{+1.01}_{-0.97}$	375 GARMASH	05 BELL	Repl. by GARMASH 06
< 6.2	90 376 AUBERT,B	04P BABR	Repl. by AUBERT,B 05N
< 12	90 377 GARMASH	02 BELL	$e^+e^- \rightarrow \gamma(4S)$
< 86	90 378 ABE	00C SLD	$e^+e^- \rightarrow Z$
< 17	90 375 JESSOP	00 CLE2	$e^+e^- \rightarrow \gamma(4S)$
< 120	90 379 ADAM	96D DLPH	$e^+e^- \rightarrow Z$
< 19	90 ASNER	96 CLE2	Repl. by JESSOP 00
< 190	90 379 ABREU	95N DLPH	Sup. by ADAM 96D
< 180	90 ALBRECHT	91B ARG	$e^+e^- \rightarrow \gamma(4S)$
< 80	90 380 AVERY	89B CLEO	$e^+e^- \rightarrow \gamma(4S)$
< 260	90 AVERY	87 CLEO	$e^+e^- \rightarrow \gamma(4S)$

375 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

376 AUBERT 04P reports a central value of $(3.9 \pm 1.2^{+1.3}_{-3.5}) \times 10^{-6}$ for this branching ratio.

377 Uses a reference decay mode $B^+ \rightarrow \bar{D}^0\pi^+$ and $\bar{D}^0 \rightarrow K^+\pi^-$ with $B(B^+ \rightarrow \bar{D}^0\pi^+) \cdot B(\bar{D}^0 \rightarrow K^+\pi^-) = (20.3 \pm 2.0) \times 10^{-5}$.

378 ABE 00C assumes $B(Z \rightarrow b\bar{b}) = (21.7 \pm 0.1)\%$ and the B fractions $f_{B^0} = f_{B^+} = (39.7^{+1.8}_{-2.2})\%$ and $f_{B_s} = (10.5^{+1.8}_{-2.2})\%$.

379 Assumes production fractions $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

380 AVERY 89B reports $< 7 \times 10^{-5}$ assuming the $\gamma(4S)$ decays 43% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(K_0^*(1430)^0\pi^+)/\Gamma_{\text{total}}$ Γ_{213}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
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47 ±5 OUR AVERAGE

$51.6 \pm 1.7^{+7.0}_{-7.5}$	381 GARMASH	06 BELL	$e^+e^- \rightarrow \gamma(4S)$	
$44.4 \pm 2.2 \pm 5.3$	381,382 AUBERT,B	05N BABR	$e^+e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

$45.0 \pm 2.9^{+15.0}_{-10.7}$	381 GARMASH	05 BELL	Repl. by GARMASH 06
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381 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

382 See erratum: AUBERT,BE 06A.

$\Gamma(K_2^*(1430)^0 \pi^+)/\Gamma_{\text{total}}$ Γ_{214}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 6.9	90	383	GARMASH 05	BELL $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
< 23	90	384	AUBERT,B 05N	BABR $e^+ e^- \rightarrow \gamma(4S)$
< 680	90		ALBRECHT 91B	ARG $e^+ e^- \rightarrow \gamma(4S)$
383 GARMASH 05 reports 2.3×10^{-6} at 90% CL for $B(B^+ \rightarrow K_2^*(1430)^0 \pi^+) \times B(K_2^*(1430)^0 \rightarrow K^+ \pi^-)$. We rescaled it using the PDG value $B(K_2^*(1430)^0 \rightarrow K\pi) = 49.9\%$ and 2/3 for the $K^+ \pi^-$ mode.				
384 AUBERT,B 05N reports 7.7×10^{-6} at 90% CL for $B(B^+ \rightarrow K_2^*(1430)^0 \pi^+) \times B(K_2^*(1430)^0 \rightarrow K^+ \pi^-)$. We rescaled it using the PDG value $B(K_2^*(1430)^0 \rightarrow K\pi) = 49.9\%$ and 2/3 for the $K^+ \pi^-$ fraction.				

 $\Gamma(K^*(1410)^0 \pi^+)/\Gamma_{\text{total}}$ Γ_{215}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 45	90	385	GARMASH 05	BELL $e^+ e^- \rightarrow \gamma(4S)$
385 GARMASH 05 reports 2.0×10^{-6} at 90% CL for $B(B^+ \rightarrow K^*(1410)^0 \pi^+) \times B(K^*(1410)^0 \rightarrow K^+ \pi^-)$. We rescaled it using the PDG value $B(K^*(1410)^0 \rightarrow K\pi) = 6.6\%$ and 2/3 for the $K^+ \pi^-$ mode.				

 $\Gamma(K^*(1680)^0 \pi^+)/\Gamma_{\text{total}}$ Γ_{216}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 12	90	386	GARMASH 05	BELL $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
< 15	90	387	AUBERT,B 05N	BABR $e^+ e^- \rightarrow \gamma(4S)$
386 GARMASH 05 reports 3.1×10^{-6} at 90% CL for $B(B^+ \rightarrow K^*(1680)^0 \pi^+) \times B(K^*(1680)^0 \rightarrow K^+ \pi^-)$. We rescaled it using the PDG value $B(K^*(1680)^0 \rightarrow K\pi) = 38.7\%$ and 2/3 for the $K^+ \pi^-$ mode.				
387 AUBERT,B 05N reports 3.8×10^{-6} at 90% CL for $B(B^+ \rightarrow K^*(1680)^0 \pi^+) \times B(K^*(1680)^0 \rightarrow K^+ \pi^-)$. We rescaled it using the PDG value $B(K^*(1680)^0 \rightarrow K\pi) = 38.7\%$ and 2/3 for the $K^+ \pi^-$ fraction.				

 $\Gamma(K^-\pi^+\pi^+)/\Gamma_{\text{total}}$ Γ_{217}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 1.8	90	388	AUBERT 03M	BABR $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
< 4.5	90	389	GARMASH 04	BELL $e^+ e^- \rightarrow \gamma(4S)$
< 7.0	90	390	GARMASH 02	BELL $e^+ e^- \rightarrow \gamma(4S)$

388 Assumes equal production of B^0 and B^+ at the $\gamma(4S)$; charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.

389 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

390 Uses a reference decay mode $B^+ \rightarrow \bar{D}^0 \pi^+$ and $\bar{D}^0 \rightarrow K^+ \pi^-$ with $B(B^+ \rightarrow \bar{D}^0 \pi^+) \cdot B(\bar{D}^0 \rightarrow K^+ \pi^-) = (20.3 \pm 2.0) \times 10^{-5}$.

$\Gamma(K^-\pi^+\pi^+ \text{nonresonant})/\Gamma_{\text{total}}$

Γ_{218}/Γ

VALUE (units 10^{-6})	CL%
<56	90

DOCUMENT ID	TECN	COMMENT
BERGFELD	CLE2	$e^+e^- \rightarrow \gamma(4S)$

$\Gamma(K_1(1400)^0\pi^+)/\Gamma_{\text{total}}$

Γ_{219}/Γ

VALUE	CL%
$<2.6 \times 10^{-3}$	90

DOCUMENT ID	TECN	COMMENT
ALBRECHT	ARG	$e^+e^- \rightarrow \gamma(4S)$

$\Gamma(K^0\pi^+\pi^0)/\Gamma_{\text{total}}$

Γ_{220}/Γ

VALUE	CL%
$<66 \times 10^{-6}$	90

DOCUMENT ID	TECN	COMMENT
391 ECKHART	CLE2	$e^+e^- \rightarrow \gamma(4S)$

391 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^0\rho^+)/\Gamma_{\text{total}}$

Γ_{221}/Γ

VALUE (units 10^{-6})	CL%
<48	90

DOCUMENT ID	TECN	COMMENT
ASNER	CLE2	$e^+e^- \rightarrow \gamma(4S)$

$\Gamma(K^*(892)^+\pi^+\pi^-)/\Gamma_{\text{total}}$

Γ_{222}/Γ

VALUE (units 10^{-6})	CL%
$75.3 \pm 6.0 \pm 8.1$	90

DOCUMENT ID	TECN	COMMENT
392 AUBERT,B	BABR	$e^+e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<1100	90	ALBRECHT	91E	ARG	$e^+e^- \rightarrow \gamma(4S)$
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392 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^*(892)^+\rho^0)/\Gamma_{\text{total}}$

Γ_{223}/Γ

VALUE (units 10^{-6})	CL%
< 6.1	90

DOCUMENT ID	TECN	COMMENT
393 AUBERT,B	BABR	$e^+e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$10.6^{+3.0}_{-2.6} \pm 2.4$	393	AUBERT	03V	BABR	Repl. by AUBERT,B 06G
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< 74	90	394	GODANG	02	CLE2	$e^+e^- \rightarrow \gamma(4S)$
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<900	90	394	ALBRECHT	91B	ARG	$e^+e^- \rightarrow \gamma(4S)$
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393 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

394 Assumes a helicity 00 configuration. For a helicity 11 configuration, the limit decreases to 4.9×10^{-5} .

$\Gamma(K^*(892)^+f_0(980))/\Gamma_{\text{total}}$

Γ_{224}/Γ

VALUE (units 10^{-6})	CL%
$5.2 \pm 1.2 \pm 0.5$	90

DOCUMENT ID	TECN	COMMENT
395 AUBERT,B	BABR	$e^+e^- \rightarrow \gamma(4S)$

395 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^*(892)^0\rho^+)/\Gamma_{\text{total}}$

Γ_{225}/Γ

VALUE (units 10^{-6})	CL%
$9.2 \pm 1.5 \text{ OUR AVERAGE}$	

DOCUMENT ID	TECN	COMMENT
396 AUBERT,B	BABR	$e^+e^- \rightarrow \gamma(4S)$

396	ZHANG	05D	BELL	$e^+e^- \rightarrow \gamma(4S)$
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396 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^*(892)^+ K^*(892)^0)/\Gamma_{\text{total}}$

Γ_{226}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<71	90	397 GODANG	02	CLE2 $e^+ e^- \rightarrow \gamma(4S)$

397 Assumes a helicity 00 configuration. For a helicity 11 configuration, the limit decreases to 4.8×10^{-5} .

$\Gamma(K_1(1400)^+ \rho^0)/\Gamma_{\text{total}}$

Γ_{227}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$<7.8 \times 10^{-4}$	90	ALBRECHT	91B	ARG $e^+ e^- \rightarrow \gamma(4S)$

$\Gamma(K_2^*(1430)^+ \rho^0)/\Gamma_{\text{total}}$

Γ_{228}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$<1.5 \times 10^{-3}$	90	ALBRECHT	91B	ARG $e^+ e^- \rightarrow \gamma(4S)$

$\Gamma(K^+ \bar{K}^0)/\Gamma_{\text{total}}$

Γ_{229}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.28 ± 0.30 OUR AVERAGE				

1.61 $\pm 0.44 \pm 0.09$	398	AUBERT,BE	06C	BABR $e^+ e^- \rightarrow \gamma(4S)$
1.0 $\pm 0.4 \pm 0.1$	398	ABE	05G	BELL $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.5 $\pm 0.5 \pm 0.1$	398	AUBERT,BE	05E	BABR Repl. by AUBERT,BE 06C
< 2.5	90	398 AUBERT	04M	BABR Repl. by AUBERT,BE 05E
< 3.3	90	398 CHAO	04	BELL $e^+ e^- \rightarrow \gamma(4S)$
< 3.3	90	398 BORNHEIM	03	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
< 2.0	90	398 CASEY	02	BELL Repl. by CHAO 04
< 5.0	90	398 ABE	01H	BELL $e^+ e^- \rightarrow \gamma(4S)$
< 2.4	90	398 AUBERT	01E	BABR $e^+ e^- \rightarrow \gamma(4S)$
< 5.1	90	398 CRONIN-HEN..00	CLE2	$e^+ e^- \rightarrow \gamma(4S)$
<21	90	GODANG	98	CLE2 Repl. by CRONIN-HENNESSY 00

398 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\bar{K}^0 K^+ \pi^0)/\Gamma_{\text{total}}$

Γ_{230}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$<24 \times 10^{-6}$	90	399 ECKHART	02	CLE2 $e^+ e^- \rightarrow \gamma(4S)$

399 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^+ K_S^0 K_S^0)/\Gamma_{\text{total}}$

Γ_{231}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
11.5 ± 1.3 OUR AVERAGE				

10.7 $\pm 1.2 \pm 1.0$	400	AUBERT,B	04V	BABR $e^+ e^- \rightarrow \gamma(4S)$
13.4 $\pm 1.9 \pm 1.5$	400	GARMASH	04	BELL $e^+ e^- \rightarrow \gamma(4S)$

400 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K_S^0 K_S^0 \pi^+)/\Gamma_{\text{total}}$

Γ_{232}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<3.2	90	401 GARMASH	04	BELL $e^+ e^- \rightarrow \gamma(4S)$

401 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^+ K^- \pi^+)/\Gamma_{\text{total}}$ Γ_{233}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 6.3	90	402 AUBERT	03M BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
<13	90	403 GARMASH	04 BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
<12	90	404 GARMASH	02 BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

402 Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$; charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.

403 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

404 Uses a reference decay mode $B^+ \rightarrow \bar{D}^0 \pi^+$ and $\bar{D}^0 \rightarrow K^+ \pi^-$ with $B(B^+ \rightarrow \bar{D}^0 \pi^+) \cdot B(\bar{D}^0 \rightarrow K^+ \pi^-) = (20.3 \pm 2.0) \times 10^{-5}$.

 $\Gamma(K^+ K^- \pi^+ \text{ nonresonant})/\Gamma_{\text{total}}$ Γ_{234}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<75	90	BERGFELD	96B CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

 $\Gamma(K^+ K^+ \pi^-)/\Gamma_{\text{total}}$ Γ_{235}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 1.3×10^{-6}	90	405 AUBERT	03M BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
< 2.4×10^{-6}	90	406 GARMASH	04 BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
< 3.2×10^{-6}	90	407 GARMASH	02 BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

405 Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$; charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.

406 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

407 Uses a reference decay mode $B^+ \rightarrow \bar{D}^0 \pi^+$ and $\bar{D}^0 \rightarrow K^+ \pi^-$ with $B(B^+ \rightarrow \bar{D}^0 \pi^+) \cdot B(\bar{D}^0 \rightarrow K^+ \pi^-) = (20.3 \pm 2.0) \times 10^{-5}$.

 $\Gamma(K^+ K^+ \pi^- \text{ nonresonant})/\Gamma_{\text{total}}$ Γ_{236}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<87.9	90	ABBIENDI	00B OPAL	$e^+ e^- \rightarrow Z$

 $\Gamma(K^+ K^*(892)^0)/\Gamma_{\text{total}}$ Γ_{237}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 5.3×10^{-6}	90	408 JESSOP	00 CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
< 1.29×10^{-4}	90	ABBIENDI	00B OPAL	$e^+ e^- \rightarrow Z$
< 1.38×10^{-4}	90	409 ABE	00C SLD	$e^+ e^- \rightarrow Z$

408 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

409 ABE 00C assumes $B(Z \rightarrow b\bar{b}) = (21.7 \pm 0.1)\%$ and the B fractions $f_{B^0} = f_{B^+} = (39.7^{+1.8}_{-2.2})\%$ and $f_{B_s} = (10.5^{+1.8}_{-2.2})\%$.

 $\Gamma(K^+ f_J(2220))/\Gamma_{\text{total}}$ Γ_{238}/Γ

<u>VALUE</u> (units 10^{-6})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
not seen	410 HUANG	03 BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
410 No evidence is found for such decay and set a limit on $B(B^+ \rightarrow f_J(2220)) \times B(f_J(2220) \rightarrow \phi\phi) < 1.2 \times 10^{-6}$ at 90%CL where the $f_J(2220)$ is a possible glueball state.			

$\Gamma(K^{*+}\pi^+K^-)/\Gamma_{\text{total}}$ Γ_{239}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<11.8	90	411 AUBERT,B	06U BABR	$e^+e^- \rightarrow \gamma(4S)$

411 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^{*+}K^+\pi^-)/\Gamma_{\text{total}}$ Γ_{240}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<6.1	90	412 AUBERT,B	06U BABR	$e^+e^- \rightarrow \gamma(4S)$

412 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^+K^-K^+)/\Gamma_{\text{total}}$ Γ_{241}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
33.7 ± 2.2 OUR AVERAGE				Error includes scale factor of 1.4.

35.2 ± 0.9 ± 1.6		413 AUBERT	060 BABR	$e^+e^- \rightarrow \gamma(4S)$
30.6 ± 1.2 ± 2.3		413 GARMASH	05 BELL	$e^+e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
32.8 ± 1.8 ± 2.8		413 GARMASH	04 BELL	Repl. by GARMASH 05
29.6 ± 2.1 ± 1.6		414 AUBERT	03M BABR	Repl. by AUBERT 060
35.3 ± 3.7 ± 4.5		415 GARMASH	02 BELL	Repl. by GARMASH 04
<200	90	416 ADAM	96D DLPH	$e^+e^- \rightarrow Z$
<320	90	416 ABREU	95N DLPH	Sup. by ADAM 96D
<350	90	ALBRECHT	91E ARG	$e^+e^- \rightarrow \gamma(4S)$

413 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

414 Assumes equal production of B^0 and B^+ at the $\gamma(4S)$; charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.

415 Uses a reference decay mode $B^+ \rightarrow \bar{D}^0\pi^+$ and $\bar{D}^0 \rightarrow K^+\pi^-$ with $B(B^+ \rightarrow \bar{D}^0\pi^+) \cdot B(\bar{D}^0 \rightarrow K^+\pi^-) = (20.3 \pm 2.0) \times 10^{-5}$.

416 Assumes B^0 and B^- production fractions of 0.39, and B_s production fraction of 0.12.

$\Gamma(K^+\phi)/\Gamma_{\text{total}}$ Γ_{242}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
8.3 ± 0.7 OUR AVERAGE				

8.4 ± 0.7 ± 0.7		417 AUBERT	060 BABR	$e^+e^- \rightarrow \gamma(4S)$
7.6 ± 1.3 ± 0.6		418 ACOSTA	05J CDF	$p\bar{p}$ at 1.96 TeV
9.60 ± 0.92 ± 1.05		417 GARMASH	05 BELL	$e^+e^- \rightarrow \gamma(4S)$
5.5 ± 2.1 ± 0.6		417 BRIERE	01 CLE2	$e^+e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

10.0 ± 0.9 ± 0.5		417 AUBERT	04A BABR	Repl. by AUBERT 060
9.4 ± 1.1 ± 0.7		417 CHEN	03B BELL	Repl. by GARMASH 05
14.6 ± 3.0 ± 2.0		419 GARMASH	02 BELL	Repl. by CHEN 03B
7.7 ± 1.6 ± 0.8		417 AUBERT	01D BABR	$e^+e^- \rightarrow \gamma(4S)$
<144	90	420 ABE	00C SLD	$e^+e^- \rightarrow Z$
< 5	90	417 BERGFELD	98 CLE2	

<280	90	421	ADAM	96D	DLPH	$e^+ e^- \rightarrow Z$
< 12	90	ASNER	96	CLE2	$e^+ e^- \rightarrow \gamma(4S)$	
<440	90	422	ABREU	95N	DLPH	Sup. by ADAM 96D
<180	90	ALBRECHT	91B	ARG	$e^+ e^- \rightarrow \gamma(4S)$	
< 90	90	423	AVERY	89B	CLEO	$e^+ e^- \rightarrow \gamma(4S)$
<210	90	AVERY	87	CLEO	$e^+ e^- \rightarrow \gamma(4S)$	

417 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

418 Uses $B(B^+ \rightarrow J/\psi K^+) = (1.00 \pm 0.04) \times 10^{-3}$ and $B(J/\psi \rightarrow \mu^+ \mu^-) = 0.0588 \pm 0.0010$.

419 Uses a reference decay mode $B^+ \rightarrow \bar{D}^0 \pi^+$ and $\bar{D}^0 \rightarrow K^+ \pi^-$ with $B(B^+ \rightarrow \bar{D}^0 \pi^+) \cdot B(\bar{D}^0 \rightarrow K^+ \pi^-) = (20.3 \pm 2.0) \times 10^{-5}$.

420 ABE 00C assumes $B(Z \rightarrow b\bar{b}) = (21.7 \pm 0.1)\%$ and the B fractions $f_{B^0} = f_{B^+} = (39.7^{+1.8}_{-2.2})\%$ and $f_{B_s} = (10.5^{+1.8}_{-2.2})\%$.

421 ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

422 Assumes a B^0 , B^- production fraction of 0.39 and a B_s production fraction of 0.12.

423 Avery 89B reports $< 8 \times 10^{-5}$ assuming the $\gamma(4S)$ decays 43% to $B^0 \bar{B}^0$. We rescale to 50%.

$\Gamma(f_0(980)K^+ \times B(f_0(980) \rightarrow K^+ K^-)) / \Gamma_{\text{total}}$ Γ_{243}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<2.9	90	424 GARMASH 05	BELL	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

6.5 \pm 2.5 \pm 1.6 424 AUBERT 060 BABR $e^+ e^- \rightarrow \gamma(4S)$

424 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(a_2(1320)K^+ \times B(a_2(1320) \rightarrow K^+ K^-)) / \Gamma_{\text{total}}$ Γ_{244}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<1.1 $\times 10^{-6}$	90	425 GARMASH 05	BELL	$e^+ e^- \rightarrow \gamma(4S)$

425 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(f'_2(1525)K^+ \times B(f'_2(1525) \rightarrow K^+ K^-)) / \Gamma_{\text{total}}$ Γ_{245}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<4.9 $\times 10^{-6}$	90	426 GARMASH 05	BELL	$e^+ e^- \rightarrow \gamma(4S)$

426 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(X_0(1550)K^+ \times B(X_0(1550) \rightarrow K^+ K^-)) / \Gamma_{\text{total}}$ Γ_{246}/Γ

$X_0(1550)$ is a possible spin zero state near $1.55 \text{ GeV}/c^2$ invariant mass of $K^+ K^+ K^-$.

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
4.3 \pm 0.6 \pm 0.3	427	AUBERT 060 BABR	$e^+ e^- \rightarrow \gamma(4S)$	

427 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\phi(1680)K^+ \times B(\phi(1680) \rightarrow K^+ K^-)) / \Gamma_{\text{total}}$ Γ_{247}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.8 $\times 10^{-6}$	90	428 GARMASH 05	BELL	$e^+ e^- \rightarrow \gamma(4S)$

428 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(f_0(1710)K^+ \times B(f_0(1710) \rightarrow K^+ K^-))/\Gamma_{\text{total}}$ Γ_{248}/Γ

<u>VALUE</u> (units 10^{-6})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$1.7 \pm 1.0 \pm 0.3$	429 AUBERT	060 BABR	$e^+ e^- \rightarrow \gamma(4S)$

429 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(K^+ K^- K^+ \text{nonresonant})/\Gamma_{\text{total}}$ Γ_{249}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
28 $\begin{array}{l} +9 \\ -16 \end{array}$ OUR AVERAGE				Error includes scale factor of 3.3.
50.0 \pm 6.0 \pm 4.0		430 AUBERT	060 BABR	$e^+ e^- \rightarrow \gamma(4S)$
24.0 \pm 1.5 $\begin{array}{l} +2.6 \\ -6.0 \end{array}$		430 GARMASH	05 BELL	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<38 90 BERGFELD 96B CLE2 $e^+ e^- \rightarrow \gamma(4S)$ 430 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(K^*(892)^+ K^+ K^-)/\Gamma_{\text{total}}$ Γ_{250}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
36.2 \pm 3.3 \pm 3.6		431 AUBERT,B	06U BABR	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<1600 90 ALBRECHT 91E ARG $e^+ e^- \rightarrow \gamma(4S)$ 431 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(K^*(892)^+ \phi)/\Gamma_{\text{total}}$ Γ_{251}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
9.6 \pm 3.0 OUR AVERAGE				Error includes scale factor of 1.9.
12.7 $\begin{array}{l} +2.2 \\ -2.0 \end{array}$ \pm 1.1		432 AUBERT	03V BABR	$e^+ e^- \rightarrow \gamma(4S)$
6.7 $\begin{array}{l} +2.1 \\ -1.9 \end{array}$ \pm 0.7		432 CHEN	03B BELL	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

9.7 $\begin{array}{l} +4.2 \\ -3.4 \end{array}$ \pm 1.7 432 AUBERT 01D BABR Repl. by AUBERT 03V< 22.5 90 432 BRIERE 01 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

< 41 90 432 BERGFELD 98 CLE2

< 70 90 ASNER 96 CLE2 $e^+ e^- \rightarrow \gamma(4S)$ <1300 90 ALBRECHT 91B ARG $e^+ e^- \rightarrow \gamma(4S)$ 432 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(K_1(1400)^+ \phi)/\Gamma_{\text{total}}$ Γ_{252}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$<1.1 \times 10^{-3}$	90	ALBRECHT	91B ARG	$e^+ e^- \rightarrow \gamma(4S)$

 $\Gamma(K_2^*(1430)^+ \phi)/\Gamma_{\text{total}}$ Γ_{253}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$<3.4 \times 10^{-3}$	90	ALBRECHT	91B ARG	$e^+ e^- \rightarrow \gamma(4S)$

$\Gamma(K^+\phi\phi)/\Gamma_{\text{total}}$

Γ_{254}/Γ

VALUE (units 10^{-6})

DOCUMENT ID

TECN

COMMENT

4.9 $^{+2.4}_{-2.2}$ OUR AVERAGE Error includes scale factor of 2.9.

$7.5 \pm 1.0 \pm 0.7$ 433 AUBERT,BE 06H BABR $e^+ e^- \rightarrow \gamma(4S)$

$2.6^{+1.1}_{-0.9} \pm 0.3$ 433 HUANG 03 BELL $e^+ e^- \rightarrow \gamma(4S)$

433 Assumes equal production of B^0 and B^+ at the $\gamma(4S)$ and for a $\phi\phi$ invariant mass below $2.85 \text{ GeV}/c^2$.

$\Gamma(\eta'\eta' K^+)/\Gamma_{\text{total}}$

Γ_{255}/Γ

VALUE (units 10^{-6})

CL%

DOCUMENT ID

TECN

COMMENT

<25 90 434 AUBERT,B 06P BABR $e^+ e^- \rightarrow \gamma(4S)$

434 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^*(892)^+\gamma)/\Gamma_{\text{total}}$

Γ_{256}/Γ

VALUE (units 10^{-5})

CL%

DOCUMENT ID

TECN

COMMENT

4.03 ± 0.26 OUR AVERAGE

$3.87 \pm 0.28 \pm 0.26$ 435 AUBERT,BE 04A BABR $e^+ e^- \rightarrow \gamma(4S)$

$4.25 \pm 0.31 \pm 0.24$ 436 NAKAO 04 BELL $e^+ e^- \rightarrow \gamma(4S)$

$3.76^{+0.89}_{-0.83} \pm 0.28$ 436 COAN 00 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$3.83 \pm 0.62 \pm 0.22$ 436 AUBERT 02C BABR Repl. by AUBERT,BE 04A

$5.7 \pm 3.1 \pm 1.1$ 437 AMMAR 93 CLE2 Repl. by COAN 00

< 55 90 438 ALBRECHT 89G ARG $e^+ e^- \rightarrow \gamma(4S)$

< 55 90 438 AVERY 89B CLEO $e^+ e^- \rightarrow \gamma(4S)$

< 180 90 AVERY 87 CLEO $e^+ e^- \rightarrow \gamma(4S)$

435 Uses the production ratio of charged and neutral B from $\gamma(4S)$ decays $R^{+/0} = 1.006 \pm 0.048$.

436 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

437 AMMAR 93 observed 4.1 ± 2.3 events above background.

438 Assumes the $\gamma(4S)$ decays 43% to $B^0\bar{B}^0$.

$\Gamma(K_1(1270)^+\gamma)/\Gamma_{\text{total}}$

Γ_{257}/Γ

VALUE (units 10^{-5})

CL%

DOCUMENT ID

TECN

COMMENT

4.3 $\pm 0.9 \pm 0.9$ 439 YANG 05 BELL $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

< 9.9 90 439 NISHIDA 02 BELL Repl. by YANG 05

< 730 90 440 ALBRECHT 89G ARG $e^+ e^- \rightarrow \gamma(4S)$

439 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

440 ALBRECHT 89G reports < 0.0066 assuming the $\gamma(4S)$ decays 45% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(\eta K^+ \gamma)/\Gamma_{\text{total}}$

Γ_{258}/Γ

VALUE (units 10^{-6})

9.4±1.1 OUR AVERAGE

DOCUMENT ID

TECN

COMMENT

$10.0 \pm 1.3 \pm 0.5$

441,442 AUBERT,B

06M BABR

$e^+ e^- \rightarrow \gamma(4S)$

$8.4 \pm 1.5^{+1.2}_{-0.9}$

442,443 NISHIDA

05 BELL

$e^+ e^- \rightarrow \gamma(4S)$

$441 m_{\eta K} < 3.25 \text{ GeV}/c^2$.

442 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$443 m_{\eta K} < 2.4 \text{ GeV}/c^2$

$\Gamma(\eta' K^+ \gamma)/\Gamma_{\text{total}}$

Γ_{259}/Γ

VALUE (units 10^{-6})

CL%

DOCUMENT ID

TECN

COMMENT

<4.2

90

444,445 AUBERT,B

06M

BABR

$e^+ e^- \rightarrow \gamma(4S)$

$444 m_{\eta' K} < 3.25 \text{ GeV}/c^2$.

445 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\phi K^+ \gamma)/\Gamma_{\text{total}}$

Γ_{260}/Γ

VALUE (units 10^{-6})

DOCUMENT ID

TECN

COMMENT

3.5±0.6 OUR AVERAGE

$3.5 \pm 0.6 \pm 0.4$

446 AUBERT

07Q

BABR

$e^+ e^- \rightarrow \gamma(4S)$

$3.4 \pm 0.9 \pm 0.4$

446 DRUTSKOY

04

BELL

$e^+ e^- \rightarrow \gamma(4S)$

446 Assumes equal production of B^+ and B^0 at $\gamma(4S)$.

$\Gamma(K^+ \pi^- \pi^+ \gamma)/\Gamma_{\text{total}}$

Γ_{261}/Γ

VALUE (units 10^{-5})

DOCUMENT ID

TECN

COMMENT

2.50±0.18±0.22

447 YANG

05

BELL

$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$2.4 \pm 0.5^{+0.4}_{-0.2}$

447,448 NISHIDA

02

BELL

Repl. by YANG 05

447 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$448 M_{K\pi\pi} < 2.4 \text{ GeV}/c^2$.

$\Gamma(K^*(892)^0 \pi^+ \gamma)/\Gamma_{\text{total}}$

Γ_{262}/Γ

VALUE

DOCUMENT ID

TECN

COMMENT

(2.0 $^{+0.7}_{-0.6}$ $\pm 0.2) \times 10^{-5}$

449,450 NISHIDA

02

BELL

$e^+ e^- \rightarrow \gamma(4S)$

449 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$450 M_{K\pi\pi} < 2.4 \text{ GeV}/c^2$.

$\Gamma(K^+ \rho^0 \gamma)/\Gamma_{\text{total}}$

Γ_{263}/Γ

VALUE

CL%

DOCUMENT ID

TECN

COMMENT

<2.0 $\times 10^{-5}$

90

451,452 NISHIDA

02

BELL

$e^+ e^- \rightarrow \gamma(4S)$

451 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$452 M_{K\pi\pi} < 2.4 \text{ GeV}/c^2$.

$\Gamma(K^+\pi^-\pi^+\gamma \text{ nonresonant})/\Gamma_{\text{total}}$ Γ_{264}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<9.2 \times 10^{-6}$	90	453,454 NISHIDA	02 BELL	$e^+e^- \rightarrow \Upsilon(4S)$

453 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

454 $M_{K\pi\pi} < 2.4 \text{ GeV}/c^2$.

$\Gamma(K_1(1400)^+\gamma)/\Gamma_{\text{total}}$ Γ_{265}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
< 1.5	90	455 YANG	05 BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
< 5.0	90	455 NISHIDA	02 BELL	Repl. by YANG 05
<220	90	456 ALBRECHT	89G ARG	$e^+e^- \rightarrow \Upsilon(4S)$

455 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

456 ALBRECHT 89G reports < 0.0020 assuming the $\Upsilon(4S)$ decays 45% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(K_2^*(1430)^+\gamma)/\Gamma_{\text{total}}$ Γ_{266}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
$1.45 \pm 0.40 \pm 0.15$	457	AUBERT,B 04U BABR	$e^+e^- \rightarrow \Upsilon(4S)$	
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
<140	90	458 ALBRECHT	89G ARG	$e^+e^- \rightarrow \Upsilon(4S)$

457 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

458 ALBRECHT 89G reports < 0.0013 assuming the $\Upsilon(4S)$ decays 45% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(K^*(1680)^+\gamma)/\Gamma_{\text{total}}$ Γ_{267}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0019	90	459 ALBRECHT	89G ARG	$e^+e^- \rightarrow \Upsilon(4S)$

459 ALBRECHT 89G reports < 0.0017 assuming the $\Upsilon(4S)$ decays 45% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(K_3^*(1780)^+\gamma)/\Gamma_{\text{total}}$ Γ_{268}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
< 39	90	460,461 NISHIDA	05 BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
<5500	90	462 ALBRECHT	89G ARG	$e^+e^- \rightarrow \Upsilon(4S)$

460 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

461 Uses $B(K_3^*(1780) \rightarrow \eta K) = 0.11^{+0.05}_{-0.04}$.

462 ALBRECHT 89G reports < 0.005 assuming the $\Upsilon(4S)$ decays 45% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(K_4^*(2045)^+\gamma)/\Gamma_{\text{total}}$ Γ_{269}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0099	90	463 ALBRECHT	89G ARG	$e^+e^- \rightarrow \Upsilon(4S)$

463 ALBRECHT 89G reports < 0.0090 assuming the $\Upsilon(4S)$ decays 45% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(\rho^+ \gamma)/\Gamma_{\text{total}}$

Γ_{270}/Γ

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
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0.88 $^{+0.29}_{-0.25}$ OUR AVERAGE

$1.10^{+0.37}_{-0.33} \pm 0.09$ 464 AUBERT 07L BABR $e^+ e^- \rightarrow \Upsilon(4S)$

$0.55^{+0.42}_{-0.36}^{+0.09}_{-0.08}$ 464 MOHAPATRA 06 BELL $e^+ e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$0.9^{+0.6}_{-0.5} \pm 0.1$ 90 464 AUBERT 05 BABR Repl. by AUBERT 07L

< 2.2 90 464 MOHAPATRA 05 BELL $e^+ e^- \rightarrow \Upsilon(4S)$

< 2.1 90 464 AUBERT 04C BABR $e^+ e^- \rightarrow \Upsilon(4S)$

< 13 90 464,465 COAN 00 CLE2 $e^+ e^- \rightarrow \Upsilon(4S)$

464 Assumes equal production of B^+ and B^0 at $\Upsilon(4S)$.

465 No evidence for a nonresonant $K\pi\gamma$ contamination was seen; the central value assumes no contamination.

$\Gamma(\pi^+ \pi^0)/\Gamma_{\text{total}}$

Γ_{271}/Γ

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
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5.5 ± 0.6 OUR AVERAGE

$5.8 \pm 0.6 \pm 0.4$ 466 AUBERT 05L BABR $e^+ e^- \rightarrow \Upsilon(4S)$

$5.0 \pm 1.2 \pm 0.5$ 466 CHAO 04 BELL $e^+ e^- \rightarrow \Upsilon(4S)$

$4.6^{+1.8}_{-1.6}^{+0.6}_{-0.7}$ 466 BORNHEIM 03 CLE2 $e^+ e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$5.5^{+1.0}_{-1.9} \pm 0.6$ 466 AUBERT 03L BABR Repl. by AUBERT 05L

$7.4^{+2.3}_{-2.2} \pm 0.9$ 466 CASEY 02 BELL Repl. by CHAO 04

< 13.4 90 466 ABE 01H BELL $e^+ e^- \rightarrow \Upsilon(4S)$

< 9.6 90 466 AUBERT 01E BABR $e^+ e^- \rightarrow \Upsilon(4S)$

< 12.7 90 466 CRONIN-HEN..00 CLE2 $e^+ e^- \rightarrow \Upsilon(4S)$

< 20 90 GODANG 98 CLE2 Repl. by CRONIN-HENNESSY 00

< 17 90 ASNER 96 CLE2 Repl. by GODANG 98

< 240 90 466 ALBRECHT 90B ARG $e^+ e^- \rightarrow \Upsilon(4S)$

< 2300 90 467 BEBEK 87 CLEO $e^+ e^- \rightarrow \Upsilon(4S)$

466 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

467 BEBEK 87 assume the $\Upsilon(4S)$ decays 43% to $B^0 \bar{B}^0$.

$\Gamma(\pi^+ \pi^+ \pi^-)/\Gamma_{\text{total}}$

Γ_{272}/Γ

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
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16.2 $\pm 1.2 \pm 0.9$

468 AUBERT,B 05G BABR $e^+ e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$10.9 \pm 3.3 \pm 1.6$ 468 AUBERT 03M BABR Repl. by AUBERT 05G

< 130 90 469 ADAM 96D DLPH $e^+ e^- \rightarrow Z$

< 220 90 470 ABREU 95N DLPH Sup. by ADAM 96D

< 450 90 471 ALBRECHT 90B ARG $e^+ e^- \rightarrow \Upsilon(4S)$

< 190 90 472 BORTOLETTO89 CLEO $e^+ e^- \rightarrow \Upsilon(4S)$

- 468 Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$; charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.
 469 ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.
 470 Assumes a B^0 , B^- production fraction of 0.39 and a B_s production fraction of 0.12.
 471 ALBRECHT 90B limit assumes equal production of $B^0\bar{B}^0$ and B^+B^- at $\Upsilon(4S)$.
 472 BORTOLETTO 89 reports $< 1.7 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(\rho^0\pi^+)/\Gamma_{\text{total}}$ Γ_{273}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
8.7±1.1 OUR AVERAGE				

$8.8 \pm 1.0^{+0.6}_{-0.9}$	473	AUBERT,B	05G	BABR $e^+e^- \rightarrow \Upsilon(4S)$
$8.0^{+2.3}_{-2.0} \pm 0.7$	473	GORDON	02	BELL $e^+e^- \rightarrow \Upsilon(rS)$
$10.4^{+3.3}_{-3.4} \pm 2.1$	473	JESSOP	00	CLE2 $e^+e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$9.5 \pm 1.1 \pm 0.9$	473	AUBERT	04Z	BABR Repl. by AUBERT 05G
< 83	90	474 ABE	00C	SLD $e^+e^- \rightarrow Z$
< 160	90	475 ADAM	96D	DLPH $e^+e^- \rightarrow Z$
< 43	90	ASNER	96	CLE2 Repl. by JESSOP 00
< 260	90	476 ABREU	95N	DLPH Sup. by ADAM 96D
< 150	90	473 ALBRECHT	90B	ARG $e^+e^- \rightarrow \Upsilon(4S)$
< 170	90	477 BORTOLETTO89	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
< 230	90	477 BEBEK	87	CLEO $e^+e^- \rightarrow \Upsilon(4S)$
< 600	90	GILES	84	CLEO Repl. by BEBEK 87

473 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

474 ABE 00C assumes $B(Z \rightarrow b\bar{b}) = (21.7 \pm 0.1)\%$ and the B fractions $f_{B^0} = f_{B^+} = (39.7^{+1.8}_{-2.2})\%$ and $f_{B_s} = (10.5^{+1.8}_{-2.2})\%$.

475 ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

476 Assumes a B^0 , B^- production fraction of 0.39 and a B_s production fraction of 0.12.

477 Papers assume the $\Upsilon(4S)$ decays 43% to $B^0\bar{B}^0$. We rescale to 50%.

$[\Gamma(K^*(892)^0\pi^+) + \Gamma(\rho^0\pi^+)/\Gamma_{\text{total}}]$ $(\Gamma_{202}+\Gamma_{273})/\Gamma$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$170^{+120}_{-80} \pm 20$	478 ADAM	96D	DLPH $e^+e^- \rightarrow Z$

478 ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

$\Gamma(\pi^+ f_0(980) \times B(f_0(980) \rightarrow \pi^+\pi^-))/\Gamma_{\text{total}}$ Γ_{274}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
< 3.0	90	479 AUBERT,B	05G	BABR $e^+e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

< 140 90 480 BORTOLETTO89 CLEO $e^+e^- \rightarrow \Upsilon(4S)$

479 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

480 BORTOLETTO 89 reports $< 1.2 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(\pi^+ f_2(1270))/\Gamma_{\text{total}}$ Γ_{275}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$8.2 \pm 2.1 \pm 1.4$	481	AUBERT,B	05G BABR	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<240	90	483	BORTOLETTO89	CLEO $e^+ e^- \rightarrow \gamma(4S)$
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481 Reported $B(B^+ \rightarrow f_2(1270)\pi^+) \times B(f_2(1270) \rightarrow \pi^+\pi^-) = (2.3 \pm 0.6 \pm 0.4) \times 10^{-6}$
and rescaled using $B(f_2(1270) \rightarrow \pi^+\pi^-) = 0.28$.

482 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

483 BORTOLETTO 89 reports $< 2.1 \times 10^{-4}$ assuming the $\gamma(4S)$ decays 43% to $B^0\bar{B}^0$.
We rescale to 50%.

 $\Gamma(\rho(1450)^0\pi^+)/\Gamma_{\text{total}}$ Γ_{276}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<2.3	90	484	AUBERT,B	05G BABR $e^+ e^- \rightarrow \gamma(4S)$

484 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(f_0(1370)\pi^+ \times B(f_0(1370) \rightarrow \pi^+\pi^-))/\Gamma_{\text{total}}$ Γ_{277}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<3.0	90	485	AUBERT,B	05G BABR $e^+ e^- \rightarrow \gamma(4S)$

485 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(f_0(600)\pi^+ \times B(f_0(600) \rightarrow \pi^+\pi^-))/\Gamma_{\text{total}}$ Γ_{278}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<4.1	90	486	AUBERT,B	05G BABR $e^+ e^- \rightarrow \gamma(4S)$

486 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(\pi^+\pi^-\pi^+ \text{ nonresonant})/\Gamma_{\text{total}}$ Γ_{279}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 4.6	90	487	AUBERT,B	05G BABR $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<41	90	BERGFELD	96B CLE2	$e^+ e^- \rightarrow \gamma(4S)$
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487 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(\pi^+\pi^0\pi^0)/\Gamma_{\text{total}}$ Γ_{280}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$<8.9 \times 10^{-4}$	90	488	ALBRECHT	90B ARG $e^+ e^- \rightarrow \gamma(4S)$

488 ALBRECHT 90B limit assumes equal production of $B^0\bar{B}^0$ and B^+B^- at $\gamma(4S)$.

 $\Gamma(\rho^+\pi^0)/\Gamma_{\text{total}}$ Γ_{281}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$12.0 \pm 1.9 \text{ OUR AVERAGE}$				

$13.2 \pm 2.3 \pm 1.4$	489	ZHANG	05A BELL	$e^+ e^- \rightarrow \gamma(4S)$
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$10.9 \pm 1.9 \pm 1.9$	489	AUBERT	04Z BABR	$e^+ e^- \rightarrow \gamma(4S)$
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• • • We do not use the following data for averages, fits, limits, etc. • • •

< 43	90	489,490	JESSOP	00	CLE2	$e^+ e^- \rightarrow \gamma(4S)$
< 77	90		ASNER	96	CLE2	Repl. by JESSOP 00
<550	90	489	ALBRECHT	90B	ARG	$e^+ e^- \rightarrow \gamma(4S)$

489 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

490 Assumes no nonresonant contributions of $B^+ \rightarrow \pi^+ \pi^0 \pi^0$.

$\Gamma(\pi^+ \pi^- \pi^+ \pi^0)/\Gamma_{\text{total}}$ Γ_{282}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<4.0 \times 10^{-3}$	90	491 ALBRECHT	90B ARG	$e^+ e^- \rightarrow \gamma(4S)$

491 ALBRECHT 90B limit assumes equal production of $B^0 \bar{B}^0$ and $B^+ B^-$ at $\gamma(4S)$.

$\Gamma(\rho^+ \rho^0)/\Gamma_{\text{total}}$ Γ_{283}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
18 ± 4 OUR AVERAGE				Error includes scale factor of 1.5.
16.8 ± 2.2 ± 2.3	492	AUBERT,BE	06G BABR	$e^+ e^- \rightarrow \gamma(4S)$
31.7 ± 7.1 $^{+3.8}_{-6.7}$	492,493	ZHANG	03B BELL	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

22.5 $^{+5.7}_{-5.4}$ ± 5.8	492	AUBERT	03V BABR	Repl. by AUBERT,BE 06G
<1000	90	492	ALBRECHT	90B ARG $e^+ e^- \rightarrow \gamma(4S)$

492 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

493 The systematic error includes the error associated with the helicity-mix uncertainty.

$\Gamma(\rho^+ f_0(980) \times B(f_0(980) \rightarrow \pi^+ \pi^-))/\Gamma_{\text{total}}$ Γ_{284}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<1.9	90	494 AUBERT,BE	06G BABR	$e^+ e^- \rightarrow \gamma(4S)$

494 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(a_1(1260)^+ \pi^0)/\Gamma_{\text{total}}$ Γ_{285}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<1.7 \times 10^{-3}$	90	495 ALBRECHT	90B ARG	$e^+ e^- \rightarrow \gamma(4S)$

495 ALBRECHT 90B limit assumes equal production of $B^0 \bar{B}^0$ and $B^+ B^-$ at $\gamma(4S)$.

$\Gamma(a_1(1260)^0 \pi^+)/\Gamma_{\text{total}}$ Γ_{286}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<9.0 \times 10^{-4}$	90	496 ALBRECHT	90B ARG	$e^+ e^- \rightarrow \gamma(4S)$

496 ALBRECHT 90B limit assumes equal production of $B^0 \bar{B}^0$ and $B^+ B^-$ at $\gamma(4S)$.

$\Gamma(\omega \pi^+)/\Gamma_{\text{total}}$ Γ_{287}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
6.7 ± 0.6 OUR AVERAGE				
6.1 ± 0.7 ± 0.4	497	AUBERT,B	06E BABR	$e^+ e^- \rightarrow \gamma(4S)$
6.9 ± 0.6 ± 0.5	497	JEN	06 BELL	$e^+ e^- \rightarrow \gamma(4S)$
11.3 $^{+3.3}_{-2.9}$ ± 1.4	497	JESSOP	00 CLE2	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$5.5 \pm 0.9 \pm 0.5$	497	AUBERT	04H	BABR	Repl. by AUBERT,B 06E	
$5.7^{+1.4}_{-1.3} \pm 0.6$	497	WANG	04A	BELL	Repl. by JEN 06	
$4.2^{+2.0}_{-1.8} \pm 0.5$	497	LU	02	BELL	Repl. by WANG 04A	
$6.6^{+2.1}_{-1.8} \pm 0.7$	497	AUBERT	01G	BABR	Repl. by AUBERT 04H	
< 23	90	497	BERGFELD	98	CLE2	Repl. by JESSOP 00
< 400	90	497	ALBRECHT	90B	ARG	$e^+ e^- \rightarrow \gamma(4S)$

497 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\omega\rho^+)/\Gamma_{\text{total}}$

Γ_{288}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$10.6 \pm 2.1^{+1.6}_{-1.0}$		498	AUBERT,B	06T BABR $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$12.6^{+3.7}_{-3.3} \pm 1.6$	498	AUBERT	050	BABR	Repl. by AUBERT,B 06T
< 61	90	498	BERGFELD	98	CLE2

498 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\eta\pi^+)/\Gamma_{\text{total}}$

Γ_{289}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
4.9 ± 0.5 OUR AVERAGE				
$5.1 \pm 0.6 \pm 0.3$	499	AUBERT,B	05K	BABR $e^+ e^- \rightarrow \gamma(4S)$
$4.8 \pm 0.7 \pm 0.3$	499	CHANG	05A	BELL $e^+ e^- \rightarrow \gamma(4S)$
$1.2^{+2.8}_{-1.2}$	499	RICHICHI	00	CLE2 $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$5.3 \pm 1.0 \pm 0.3$	499	AUBERT	04H	BABR	Repl. by AUBERT,B 05K
< 15	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00
< 700	90	499	ALBRECHT	90B	ARG $e^+ e^- \rightarrow \gamma(4S)$

499 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\eta'\pi^+)/\Gamma_{\text{total}}$

Γ_{290}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
2.6 ± 1.1 OUR AVERAGE				Error includes scale factor of 2.0.
$1.76^{+0.67+0.15}_{-0.62-0.14}$	500	SCHUEMANN	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
$4.0 \pm 0.8 \pm 0.4$	500	AUBERT,B	05K	BABR $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

< 4.5	90	500	AUBERT	04H	BABR Repl. by AUBERT,B 05K
< 7.0	90	500	ABE	01M	BELL $e^+ e^- \rightarrow \gamma(4S)$
< 12	90	500	AUBERT	01G	BABR $e^+ e^- \rightarrow \gamma(4S)$
< 12	90	500	RICHICHI	00	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
< 31	90	500	BEHRENS	98	CLE2 Repl. by RICHICHI 00

500 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\eta'\rho^+)/\Gamma_{\text{total}}$ Γ_{291}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
$8.7^{+3.1+2.3}_{-2.8-1.3}$		501 AUBERT	07E BABR	$e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

<22	90	501 AUBERT,B	04D BABR	Repl. by AUBERT 07E
<33	90	501 RICHICHI	00 CLE2	$e^+ e^- \rightarrow \gamma(4S)$
<47	90	BEHRENS	98 CLE2	Repl. by RICHICHI 00

501 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(\eta\rho^+)/\Gamma_{\text{total}}$ Γ_{292}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
$8.4^{+1.9+1.1}_{-1.9-1.1}$		502 AUBERT,B	05K BABR	$e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

<14	90	502 AUBERT,B	04D BABR	Repl. by AUBERT,B 05K
<15	90	502 RICHICHI	00 CLE2	$e^+ e^- \rightarrow \gamma(4S)$
<32	90	BEHRENS	98 CLE2	Repl. by RICHICHI 00

502 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(\phi\pi^+)/\Gamma_{\text{total}}$ Γ_{293}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
< 0.24	90	503 AUBERT,B	06C BABR	$e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

< 0.41	90	503 AUBERT	04A BABR	Repl. by AUBERT,B 06C
< 1.4	90	503 AUBERT	01D BABR	$e^+ e^- \rightarrow \gamma(4S)$
<153	90	504 ABE	00C SLD	$e^+ e^- \rightarrow Z$
< 5	90	503 BERGFELD	98 CLE2	

503 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

504 ABE 00C assumes $B(Z \rightarrow b\bar{b}) = (21.7 \pm 0.1)\%$ and the B fractions $f_{B^0} = f_{B^+} = (39.7^{+1.8}_{-2.2})\%$ and $f_{B_s} = (10.5^{+1.8}_{-2.2})\%$.

 $\Gamma(\phi\rho^+)/\Gamma_{\text{total}}$ Γ_{294}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	
<16		505 BERGFELD	98 CLE2	

505 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(a_0^0\pi^+)/\Gamma_{\text{total}}$ Γ_{295}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<5.8	90	506 AUBERT,BE	04 BABR	$e^+ e^- \rightarrow \gamma(4S)$	

506 Assumes equal production of charged and neutral B mesons from $\gamma(4S)$ decays.

 $\Gamma(\pi^+\pi^+\pi^-\pi^-)/\Gamma_{\text{total}}$ Γ_{296}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
$<8.6 \times 10^{-4}$	90	507 ALBRECHT	90B ARG	$e^+ e^- \rightarrow \gamma(4S)$	

507 ALBRECHT 90B limit assumes equal production of $B^0\bar{B}^0$ and $B^+\bar{B}^-$ at $\gamma(4S)$.

$\Gamma(\rho^0 a_1(1260)^+)/\Gamma_{\text{total}}$ Γ_{297}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<6.2 \times 10^{-4}$	90	508 BORTOLETTO89	CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
$<6.0 \times 10^{-4}$	90	509 ALBRECHT	90B ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
$<3.2 \times 10^{-3}$	90	508 BEBEK	87 CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$

508 BORTOLETTO 89 reports $< 5.4 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0 \bar{B}^0$.

We rescale to 50%.

509 ALBRECHT 90B limit assumes equal production of $B^0 \bar{B}^0$ and $B^+ B^-$ at $\Upsilon(4S)$.

$\Gamma(\rho^0 a_2(1320)^+)/\Gamma_{\text{total}}$ Γ_{298}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<7.2 \times 10^{-4}$	90	510 BORTOLETTO89	CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
$<2.6 \times 10^{-3}$	90	511 BEBEK	87 CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$
510 BORTOLETTO 89 reports $< 6.3 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0 \bar{B}^0$.				
We rescale to 50%.				
511 BEBEK 87 reports $< 2.3 \times 10^{-3}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0 \bar{B}^0$. We rescale to 50%.				

$\Gamma(\pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^0)/\Gamma_{\text{total}}$ Γ_{299}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<6.3 \times 10^{-3}$	90	512 ALBRECHT	90B ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
512 ALBRECHT 90B limit assumes equal production of $B^0 \bar{B}^0$ and $B^+ B^-$ at $\Upsilon(4S)$.				

$\Gamma(a_1(1260)^+ a_1(1260)^0)/\Gamma_{\text{total}}$ Γ_{300}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<1.3 \times 10^{-2}$	90	513 ALBRECHT	90B ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
513 ALBRECHT 90B limit assumes equal production of $B^0 \bar{B}^0$ and $B^+ B^-$ at $\Upsilon(4S)$.				

$\Gamma(h^+ \pi^0)/\Gamma_{\text{total}}$ Γ_{301}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$16^{+6}_{-5} \pm 3.6$	GODANG	98 CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

$\Gamma(\omega h^+)/\Gamma_{\text{total}}$ Γ_{302}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$13.8^{+2.7}_{-2.4}$ OUR AVERAGE			

$13.4^{+3.3}_{-2.9} \pm 1.1$ 514 LU 02 BELL $e^+ e^- \rightarrow \Upsilon(4S)$

$14.3^{+3.6}_{-3.2} \pm 2.0$ 514 JESSOP 00 CLE2 $e^+ e^- \rightarrow \Upsilon(4S)$

$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$

$25^{+8}_{-7} \pm 3$ 514 BERGFELD 98 CLE2 Repl. by JESSOP 00

514 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(h^+ X^0(\text{Familon}))/\Gamma_{\text{total}}$ Γ_{303}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<49	90	515 AMMAR	01B CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

515 AMMAR 01B searched for the two-body decay of the B meson to a massless neutral feebly-interacting particle X^0 such as the familon, the Nambu-Goldstone boson associated with a spontaneously broken global family symmetry.

 $\Gamma(p\bar{p}\pi^+)/\Gamma_{\text{total}}$ Γ_{304}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
3.06$^{+0.73}_{-0.62}$ ± 0.37		516,517 WANG	04 BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

< 3.7	90	516,518 ABE	02K BELL	Repl. by WANG 04
<500	90	519 ABREU	95N DLPH	Sup. by ADAM 96D
<160	90	520 BEBEK	89 CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$
570 ± 150	± 210	521 ALBRECHT	88F ARG	$e^+ e^- \rightarrow \Upsilon(4S)$

516 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

517 The branching fraction for $M_{p\bar{p}} < 2.85 \text{ GeV}/c^2$ is also reported.

518 Explicitly vetoes resonant production of $p\bar{p}$ from Charmonium states.

519 Assumes a B^0 , B^- production fraction of 0.39 and a B_s production fraction of 0.12.

520 BEBEK 89 reports $< 1.4 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\bar{B}^0$. We rescale to 50%.

521 ALBRECHT 88F reports $(5.2 \pm 1.4 \pm 1.9) \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\bar{B}^0$. We rescale to 50%.

 $\Gamma(p\bar{p}\pi^+ \text{nonresonant})/\Gamma_{\text{total}}$ Γ_{305}/Γ

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<53	90	BERGFELD	96B CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

 $\Gamma(p\bar{p}\pi^+\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_{306}/Γ

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<5.2 × 10⁻⁴	90	522 ALBRECHT	88F ARG	$e^+ e^- \rightarrow \Upsilon(4S)$

522 ALBRECHT 88F reports $< 4.7 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\bar{B}^0$. We rescale to 50%.

 $\Gamma(p\bar{p}K^+)/\Gamma_{\text{total}}$ Γ_{307}/Γ

<u>VALUE</u> (units 10^{-6})	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
5.6 ± 1.0 OUR AVERAGE			Error includes scale factor of 2.4.
6.7 ± 0.5 ± 0.4	523,524,525 AUBERT,B	05L BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
4.59 $^{+0.38}_{-0.34}$ ± 0.50	523,524,525 WANG	05A BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

5.66 $^{+0.67}_{-0.57}$ ± 0.62 523,524,526 WANG 04 BELL Repl. by WANG 05A

4.3 $^{+1.1}_{-0.9}$ ± 0.5 523,524 ABE 02K BELL Repl. by WANG 04

523 Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

524 Explicitly vetoes resonant production of $p\bar{p}$ from Charmonium states.

525 Provides also results with $M_{p\bar{p}} < 2.85 \text{ GeV}/c^2$ and angular asymmetry of $p\bar{p}$ system.

526 The branching fraction for $M_{p\bar{p}} < 2.85 \text{ GeV}/c^2$ is also reported.

$\Gamma(\Theta(1710)^{++} \bar{p} \times B(\Theta(1710)^{++} \rightarrow p K^+)) / \Gamma_{\text{total}}$ Γ_{308}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<0.091	90	527 WANG	05A BELL	$e^+ e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
<0.1	90	527,528 AUBERT,B	05L BABR	$e^+ e^- \rightarrow \gamma(4S)$
527 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.				
528 Provides upper limits depending on the pentaquark masses between 1.43 to 2.0 GeV/c^2 .				

$\Gamma(f_J(2220) K^+ \times B(f_J(2220) \rightarrow p \bar{p})) / \Gamma_{\text{total}}$ Γ_{309}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<0.41	90	529 WANG	05A BELL	$e^+ e^- \rightarrow \gamma(4S)$
529 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.				

$\Gamma(p \bar{\Lambda}(1520)) / \Gamma_{\text{total}}$ Γ_{310}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<1.5	90	530 AUBERT,B	05L BABR	$e^+ e^- \rightarrow \gamma(4S)$
530 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.				

$\Gamma(p \bar{p} K^+ \text{nonresonant}) / \Gamma_{\text{total}}$ Γ_{311}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<89	90	BERGFELD	96B CLE2	$e^+ e^- \rightarrow \gamma(4S)$

$\Gamma(p \bar{p} K^*(892)^+)/\Gamma_{\text{total}}$ Γ_{312}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$10.3^{+3.6+1.3}_{-2.8-1.7}$		531,532 WANG	04 BELL	$e^+ e^- \rightarrow \gamma(4S)$

531 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

532 The branching fraction for $M_{p \bar{p}} < 2.85 \text{ GeV}/c^2$ is also reported.

$\Gamma(p \bar{\Lambda}) / \Gamma_{\text{total}}$ Γ_{313}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
< 0.49	90	533 CHANG	05 BELL	$e^+ e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$				
< 1.5	90	533 BORNHEIM	03 CLE2	$e^+ e^- \rightarrow \gamma(4S)$
< 2.2	90	533 ABE	020 BELL	$e^+ e^- \rightarrow \gamma(4S)$
< 2.6	90	533 COAN	99 CLE2	$e^+ e^- \rightarrow \gamma(4S)$
<60	90	534 Avery	89B CLEO	$e^+ e^- \rightarrow \gamma(4S)$
<93	90	535 ALBRECHT	88F ARG	$e^+ e^- \rightarrow \gamma(4S)$

533 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

534 Avery 89B reports $< 5 \times 10^{-5}$ assuming the $\gamma(4S)$ decays 43% to $B^0 \bar{B}^0$. We rescale to 50%.

535 ALBRECHT 88F reports $< 8.5 \times 10^{-5}$ assuming the $\gamma(4S)$ decays 45% to $B^0 \bar{B}^0$. We rescale to 50%.

$\Gamma(p\bar{\Lambda}\gamma)/\Gamma_{\text{total}}$

Γ_{314}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$2.16^{+0.58}_{-0.53} \pm 0.20$	536	LEE	05	BELL $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<3.9 90 537 EDWARDS 03 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

536 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

537 Corresponds to $E_\gamma > 1.5$ GeV. The limit changes to 3.3×10^{-6} for $E_\gamma > 2.0$ GeV.

$\Gamma(p\bar{\Sigma}\gamma)/\Gamma_{\text{total}}$

Γ_{315}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<4.6	90	538 LEE	05	BELL $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<7.9 90 539 EDWARDS 03 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

538 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

539 Corresponds to $E_\gamma > 1.5$ GeV. The limit changes to 6.4×10^{-6} for $E_\gamma > 2.0$ GeV.

$\Gamma(p\bar{\Lambda}\pi^+\pi^-)/\Gamma_{\text{total}}$

Γ_{316}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<2.0 \times 10^{-4}$	90	540 ALBRECHT	88F	ARG $e^+ e^- \rightarrow \gamma(4S)$

540 ALBRECHT 88F reports $< 1.8 \times 10^{-4}$ assuming the $\gamma(4S)$ decays 45% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(\Lambda\bar{\Lambda}\pi^+)/\Gamma_{\text{total}}$

Γ_{317}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<2.8	90	541 LEE	04	BELL $e^+ e^- \rightarrow \gamma(4S)$

541 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\Lambda\bar{\Lambda}K^+)/\Gamma_{\text{total}}$

Γ_{318}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$2.91^{+0.9}_{-0.70} \pm 0.38$	542	LEE	04	BELL $e^+ e^- \rightarrow \gamma(4S)$

542 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\Delta^0 p)/\Gamma_{\text{total}}$

Γ_{319}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<3.8 \times 10^{-4}$	90	543 BORTOLETTO89	CLEO	$e^+ e^- \rightarrow \gamma(4S)$

543 BORTOLETTO 89 reports $< 3.3 \times 10^{-4}$ assuming the $\gamma(4S)$ decays 43% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(\Delta^{++}\bar{p})/\Gamma_{\text{total}}$

Γ_{320}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<1.5 \times 10^{-4}$	90	544 BORTOLETTO89	CLEO	$e^+ e^- \rightarrow \gamma(4S)$

544 BORTOLETTO 89 reports $< 1.3 \times 10^{-4}$ assuming the $\gamma(4S)$ decays 43% to $B^0\bar{B}^0$. We rescale to 50%.

$\Gamma(D^+ p\bar{p})/\Gamma_{\text{total}}$ Γ_{321}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<1.5 \times 10^{-5}$	90	545 ABE	02W BELL	$e^+ e^- \rightarrow \gamma(4S)$

545 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(D^*(2010)^+ p\bar{p})/\Gamma_{\text{total}}$ Γ_{322}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<1.5 \times 10^{-5}$	90	546 ABE	02W BELL	$e^+ e^- \rightarrow \gamma(4S)$

546 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{\Lambda}_c^- p\pi^+)/\Gamma_{\text{total}}$ Γ_{323}/Γ

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
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2.1±0.6 OUR AVERAGE2.0±0.2±0.5 547 GABYSHEV 06A BELL $e^+ e^- \rightarrow \gamma(4S)$ 2.4±0.6±0.6 548 DYTMAN 02 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

1.9±0.5±0.5 549 GABYSHEV 02 BELL Repl. by GABYSHEV 06A

6.2^{+2.3}_{-2.0}±1.6 550 FU 97 CLE2 Repl. by DYTMAN 02547 GABYSHEV 06A reports $(2.01 \pm 0.15 \pm 0.20) \times 10^{-4}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = 0.05$.We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.548 DYTMAN 02 reports $(2.4^{+0.63}_{-0.62}) \times 10^{-4}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = 0.05$. We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.549 GABYSHEV 02 reports $(1.87^{+0.51}_{-0.49}) \times 10^{-4}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = 0.05$. We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.550 FU 97 uses PDG 96 values of Λ_c branching fraction. $\Gamma(\bar{\Lambda}_c^- \Delta(1232)^{++})/\Gamma_{\text{total}}$ Γ_{324}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
<1.9	90	GABYSHEV	06A	BELL $e^+ e^- \rightarrow \gamma(4S)$

 $\Gamma(\bar{\Lambda}_c^- \Delta(1600)^{++})/\Gamma_{\text{total}}$ Γ_{325}/Γ

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
5.9 \pm 1.2 \pm 1.5	551 GABYSHEV	06A	BELL $e^+ e^- \rightarrow \gamma(4S)$

551 GABYSHEV 06A reports $(5.9 \pm 1.0 \pm 0.6) \times 10^{-5}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = 0.05$. We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\bar{\Lambda}_c^- \Delta\chi(2420)^{++})/\Gamma_{\text{total}}$ Γ_{326}/Γ VALUE (units 10^{-5})DOCUMENT IDTECNCOMMENT **$4.7^{+1.1}_{-1.0} \pm 1.2$** 552 GABYSHEV 06A BELL $e^+ e^- \rightarrow \gamma(4S)$

552 GABYSHEV 06A reports $(4.7^{+1.0}_{-0.9} \pm 0.4) \times 10^{-5}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = 0.05$. We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

 $\Gamma((\bar{\Lambda}_c^- p)_s \pi^+)/\Gamma_{\text{total}}$ Γ_{327}/Γ $(\bar{\Lambda}_c^- p)_s$ denotes a low-mass enhancement near $3.35 \text{ GeV}/c^2$.VALUE (units 10^{-5})DOCUMENT IDTECNCOMMENT **$3.9^{+0.9}_{-0.8} \pm 1.0$** 553 GABYSHEV 06A BELL $e^+ e^- \rightarrow \gamma(4S)$

553 GABYSHEV 06A reports $(3.9^{+0.8}_{-0.7} \pm 0.4) \times 10^{-5}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = 0.05$. We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

 $\Gamma(\bar{\Lambda}_c^- p \pi^+ \pi^0)/\Gamma_{\text{total}}$ Γ_{328}/Γ VALUE (units 10^{-3})CL%DOCUMENT IDTECNCOMMENT **$1.81 \pm 0.29^{+0.52}_{-0.50}$** 554,555 DYTMAN 02 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<3.12	90	556 FU	97	CLE2	$e^+ e^- \rightarrow \gamma(4S)$
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554 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

555 DYTMAN 02 measurement uses $B(\Lambda_c^- \rightarrow \bar{p} K^+ \pi^-) = 5.0 \pm 1.3\%$. The second error includes the systematic and the uncertainty of the branching ratio.

556 FU 97 uses PDG 96 values of Λ_c branching ratio.

 $\Gamma(\bar{\Lambda}_c^- p \pi^+ \pi^+ \pi^-)/\Gamma_{\text{total}}$ Γ_{329}/Γ VALUE (units 10^{-3})CL%DOCUMENT IDTECNCOMMENT **$2.25 \pm 0.25^{+0.63}_{-0.61}$** 557,558 DYTMAN 02 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<1.46	90	559 FU	97	CLE2	$e^+ e^- \rightarrow \gamma(4S)$
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557 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

558 DYTMAN 02 measurement uses $B(\Lambda_c^- \rightarrow \bar{p} K^+ \pi^-) = 5.0 \pm 1.3\%$. The second error includes the systematic and the uncertainty of the branching ratio.

559 FU 97 uses PDG 96 values of Λ_c branching ratio.

 $\Gamma(\bar{\Lambda}_c^- p \pi^+ \pi^+ \pi^- \pi^0)/\Gamma_{\text{total}}$ Γ_{330}/Γ VALUECL%DOCUMENT IDTECNCOMMENT **$<1.34 \times 10^{-2}$** 90 560 FU 97 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

560 FU 97 uses PDG 96 values of Λ_c branching ratio.

$\Gamma(\Lambda_c^+ \Lambda_c^- K^+)/\Gamma_{\text{total}}$ Γ_{331}/Γ VALUE (units 10^{-4})DOCUMENT IDTECNCOMMENT **$6.5^{+1.0}_{-0.9} \pm 3.6$** 561 GABYSHEV 06 BELL $e^+ e^- \rightarrow \gamma(4S)$ 561 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$ and $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3)\%$. $\Gamma(\bar{\Sigma}_c(2455)^0 p)/\Gamma_{\text{total}}$ Γ_{332}/Γ VALUE (units 10^{-5})CL%DOCUMENT IDTECNCOMMENT **$3.7 \pm 0.8 \pm 1.0$** 562 GABYSHEV 06A BELL $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<8

90 563,564 DYTMAN 02 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

<9.3

90 563,565 GABYSHEV 02 BELL Repl. by GABYSHEV 06A

562 GABYSHEV 06A reports $(3.7 \pm 0.7 \pm 0.4) \times 10^{-5}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = 0.05$. We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.563 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.564 DYTMAN 02 measurement uses $B(\Lambda_c^- \rightarrow \bar{p} K^+ \pi^-) = 5.0 \pm 1.3\%$. The second error includes the systematic and the uncertainty of the branching ratio.565 Uses the value for $\Lambda_c \rightarrow p K^- \pi^+$ branching ratio $(5.0 \pm 1.3)\%$. $\Gamma(\bar{\Sigma}_c(2520)^0 p)/\Gamma_{\text{total}}$ Γ_{333}/Γ VALUE (units 10^{-5})CL%DOCUMENT IDTECNCOMMENT

<2.7

90 GABYSHEV 06A BELL $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<4.6

90 566,567 GABYSHEV 02 BELL Repl. by GABYSHEV 06A

566 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.567 Uses the value for $\Lambda_c \rightarrow p K^- \pi^+$ branching ratio $(5.0 \pm 1.3)\%$. $\Gamma(\bar{\Sigma}_c(2455)^0 p \pi^0)/\Gamma_{\text{total}}$ Γ_{334}/Γ VALUE (units 10^{-4})DOCUMENT IDTECNCOMMENT **$4.4 \pm 1.4 \pm 1.1$** 568,569 DYTMAN 02 CLE2 $e^+ e^- \rightarrow \gamma(4S)$ 568 DYTMAN 02 reports $(4.4 \pm 1.4) \times 10^{-4}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = 0.05$. We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.569 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(\bar{\Sigma}_c(2455)^0 p \pi^- \pi^+)/\Gamma_{\text{total}}$ Γ_{335}/Γ VALUE (units 10^{-4})DOCUMENT IDTECNCOMMENT **$4.4 \pm 1.3 \pm 1.1$** 570,571 DYTMAN 02 CLE2 $e^+ e^- \rightarrow \gamma(4S)$ 570 DYTMAN 02 reports $(4.4 \pm 1.3) \times 10^{-4}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = 0.05$. We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.571 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\Sigma_c(2455)^{--} p\pi^+ \pi^+)/\Gamma_{\text{total}}$ Γ_{336}/Γ

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
2.8±1.0±0.7	572,573 DYTMAN	02 CLE2	$e^+ e^- \rightarrow \gamma(4S)$

572 DYTMAN 02 reports $(2.8 \pm 1.0) \times 10^{-4}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = 0.05$. We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.
 573 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(\bar{\Lambda}_c(2593)^- / \bar{\Lambda}_c(2625)^- p\pi^+)/\Gamma_{\text{total}}$ Γ_{337}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<1.9 × 10⁻⁴	90	574,575 DYTMAN	02 CLE2	$e^+ e^- \rightarrow \gamma(4S)$

574 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.
 575 DYTMAN 02 measurement uses $B(\Lambda_c^- \rightarrow \bar{p} K^+ \pi^-) = 5.0 \pm 1.3\%$. The second error includes the systematic and the uncertainty of the branching ratio.

 $\Gamma(\Xi_c^0 \Lambda_c^+ \times B(\Xi_c^0 \rightarrow \Xi^+ \pi^-))/\Gamma_{\text{total}}$ Γ_{338}/Γ

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
5.6^{+2.3}_{-1.9}±1.5	576,577 CHISTOV	06A BELL	$e^+ e^- \rightarrow \gamma(4S)$

576 CHISTOV 06A reports $(5.6^{+1.9}_{-1.5} \pm 1.9) \times 10^{-5}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

577 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(\Xi_c^0 \Lambda_c^+ \times B(\Xi_c^0 \rightarrow \Lambda K^+ \pi^-))/\Gamma_{\text{total}}$ Γ_{339}/Γ

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
4.0^{+1.3}_{-1.2}±1.0	578,579 CHISTOV	06A BELL	$e^+ e^- \rightarrow \gamma(4S)$

578 CHISTOV 06A reports $(4.0^{+1.1}_{-0.9} \pm 1.3) \times 10^{-5}$ for $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. We rescale to our best value $B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

579 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 $\Gamma(\pi^+ e^+ e^-)/\Gamma_{\text{total}}$ Γ_{340}/Γ

Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0039	90	580 WEIR	90B MRK2	$e^+ e^- 29 \text{ GeV}$

580 WEIR 90B assumes B^+ production cross section from LUND.

 $\Gamma(\pi^+ \mu^+ \mu^-)/\Gamma_{\text{total}}$ Γ_{341}/Γ

Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0091	90	581 WEIR	90B MRK2	$e^+ e^- 29 \text{ GeV}$

581 WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^+ \nu \bar{\nu})/\Gamma_{\text{total}}$ Γ_{342}/Γ Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$<1.0 \times 10^{-4}$	90	582 AUBERT	05H BABR	$e^+ e^- \rightarrow \gamma(4S)$

582 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$. $\Gamma(K^+ e^+ e^-)/\Gamma_{\text{total}}$ Γ_{343}/Γ Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

<u>VALUE (units 10^{-7})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
4.9±1.0 OUR AVERAGE				
$4.2^{+1.2}_{-1.1} \pm 0.2$		583 AUBERT,B	06J BABR	$e^+ e^- \rightarrow \gamma(4S)$
$6.3^{+1.9}_{-1.7} \pm 0.3$		584 ISHIKAWA	03 BELL	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$10.5^{+2.5}_{-2.2} \pm 0.7$		583 AUBERT	03U BABR	Repl. by AUBERT,B 06J
< 14	90	583 ABE	02 BELL	$e^+ e^- \rightarrow \gamma(4S)$
< 9	90	583 AUBERT	02L BABR	$e^+ e^- \rightarrow \gamma(4S)$
< 24	90	585 ANDERSON	01B CLE2	$e^+ e^- \rightarrow \gamma(4S)$
< 990	90	586 ALBRECHT	91E ARG	$e^+ e^- \rightarrow \gamma(4S)$
< 68000	90	587 WEIR	90B MRK2	$e^+ e^- \rightarrow \gamma(4S)$ 29 GeV
< 600	90	588 Avery	89B CLEO	$e^+ e^- \rightarrow \gamma(4S)$
< 2500	90	589 Avery	87 CLEO	$e^+ e^- \rightarrow \gamma(4S)$

583 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.584 Assumes equal production of B^0 and B^+ at $\gamma(4S)$. The second error is a total of systematic uncertainties including model dependence.

585 The result is for di-lepton masses above 0.5 GeV.

586 ALBRECHT 91E reports $< 9.0 \times 10^{-5}$ assuming the $\gamma(4S)$ decays 45% to $B^0 \bar{B}^0$. We rescale to 50%.587 WEIR 90B assumes B^+ production cross section from LUND.588 Avery 89B reports $< 5 \times 10^{-5}$ assuming the $\gamma(4S)$ decays 43% to $B^0 \bar{B}^0$. We rescale to 50%.589 Avery 87 reports $< 2.1 \times 10^{-4}$ assuming the $\gamma(4S)$ decays 40% to $B^0 \bar{B}^0$. We rescale to 50%. $\Gamma(K^+ \mu^+ \mu^-)/\Gamma_{\text{total}}$ Γ_{344}/Γ Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.39$^{+0.10}_{-0.09}$ OUR AVERAGE				
$0.31^{+0.15}_{-0.12} \pm 0.03$		590 AUBERT,B	06J BABR	$e^+ e^- \rightarrow \gamma(4S)$
$0.45^{+0.14}_{-0.12} \pm 0.03$		591 ISHIKAWA	03 BELL	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$0.07^{+0.19}_{-0.11} \pm 0.02$	590 AUBERT	03U BABR	Repl. by AUBERT,B 06J
$0.98^{+0.46}_{-0.36} \pm 0.16$	590 ABE	02 BELL	Repl. by ISHIKAWA 03
< 1.2	90 590 AUBERT	02L BABR	$e^+ e^- \rightarrow \gamma(4S)$
< 3.68	90 592 ANDERSON	01B CLE2	$e^+ e^- \rightarrow \gamma(4S)$
< 5.2	90 593 AFFOLDER	99B CDF	$p\bar{p}$ at 1.8 TeV
< 10	90 594 ABE	96L CDF	Repl. by AF- FOLDER 99B
< 240	90 595 ALBRECHT	91E ARG	$e^+ e^- \rightarrow \gamma(4S)$
< 6400	90 596 WEIR	90B MRK2	$e^+ e^-$ 29 GeV
< 170	90 597 Avery	89B CLEO	$e^+ e^- \rightarrow \gamma(4S)$
< 380	90 598 Avery	87 CLEO	$e^+ e^- \rightarrow \gamma(4S)$

590 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

591 Assumes equal production of B^0 and B^+ at $\gamma(4S)$. The second error is a total of systematic uncertainties including model dependence.

592 The result is for di-lepton masses above 0.5 GeV.

593 AFFOLDER 99B measured relative to $B^+ \rightarrow J/\psi(1S) K^+$.

594 ABE 96L measured relative to $B^+ \rightarrow J/\psi(1S) K^+$ using PDG 94 branching ratios.

595 ALBRECHT 91E reports $< 2.2 \times 10^{-4}$ assuming the $\gamma(4S)$ decays 45% to $B^0 \bar{B}^0$. We rescale to 50%.

596 WEIR 90B assumes B^+ production cross section from LUND.

597 Avery 89B reports $< 1.5 \times 10^{-4}$ assuming the $\gamma(4S)$ decays 43% to $B^0 \bar{B}^0$. We rescale to 50%.

598 Avery 87 reports $< 3.2 \times 10^{-4}$ assuming the $\gamma(4S)$ decays 40% to $B^0 \bar{B}^0$. We rescale to 50%.

$\Gamma(K^+\ell^+\ell^-)/\Gamma_{\text{total}}$

Γ_{345}/Γ

Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
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4.4 $^{+0.8}_{-0.7}$ OUR AVERAGE Error includes scale factor of 1.1.

$3.8^{+0.9}_{-0.8} \pm 0.2$ 599 AUBERT,B 06J BABR $e^+ e^- \rightarrow \gamma(4S)$

$5.3^{+1.1}_{-1.0} \pm 0.3$ 599 ISHIKAWA 03 BELL $e^+ e^- \rightarrow \gamma(4S)$

599 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^+\bar{\nu}\nu)/\Gamma_{\text{total}}$

Γ_{346}/Γ

Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
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$< 5.2 \times 10^{-5}$ 90 600 AUBERT 05H BABR $e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$< 2.4 \times 10^{-4}$ 90 600 BROWDER 01 CLE2 $e^+ e^- \rightarrow \gamma(4S)$

600 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^*(892)^+ e^+ e^-)/\Gamma_{\text{total}}$

Γ_{347}/Γ

Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT	
$0.75^{+0.76}_{-0.65} \pm 0.38$	601	AUBERT,B	06J	BABR $e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

$0.20^{+1.34}_{-0.87} \pm 0.28$	601	AUBERT	03U	BABR $e^+ e^- \rightarrow \gamma(4S)$	
< 4.6	90	602 ISHIKAWA	03	BELL $e^+ e^- \rightarrow \gamma(4S)$	
< 8.9	90	601 ABE	02	BELL Repl. by ISHIKAWA 03	
< 9.5	90	601 AUBERT	02L	BABR $e^+ e^- \rightarrow \gamma(4S)$	
< 690	90	603 ALBRECHT	91E	ARG $e^+ e^- \rightarrow \gamma(4S)$	

601 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

602 Assumes equal production of B^0 and B^+ at $\gamma(4S)$. The second error is a total of systematic uncertainties including model dependence.

603 ALBRECHT 91E reports $< 6.3 \times 10^{-4}$ assuming the $\gamma(4S)$ decays 45% to $B^0 \bar{B}^0$. We rescale to 50%.

$\Gamma(K^*(892)^+ \mu^+ \mu^-)/\Gamma_{\text{total}}$

Γ_{348}/Γ

Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT	
0.8 $^{+0.6}_{-0.4}$ OUR AVERAGE					
$0.97^{+0.94}_{-0.69} \pm 0.14$	604	AUBERT,B	06J	BABR $e^+ e^- \rightarrow \gamma(4S)$	
$0.65^{+0.69}_{-0.53} + 0.15$	605 ISHIKAWA	03	BELL	$e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

$3.07^{+2.58}_{-1.78} \pm 0.42$	604	AUBERT	03U	BABR $e^+ e^- \rightarrow \gamma(4S)$	
< 3.9	90	604 ABE	02	BELL Repl. by ISHIKAWA 03	
< 17.0	90	604 AUBERT	02L	BABR $e^+ e^- \rightarrow \gamma(4S)$	
< 1200	90	606 ALBRECHT	91E	ARG $e^+ e^- \rightarrow \gamma(4S)$	

604 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

605 Assumes equal production of B^0 and B^+ at $\gamma(4S)$. The second error is a total of systematic uncertainties including model dependence. The 90% C.L. upper limit is 2.2×10^{-6} .

606 ALBRECHT 91E reports $< 1.1 \times 10^{-3}$ assuming the $\gamma(4S)$ decays 45% to $B^0 \bar{B}^0$. We rescale to 50%.

$\Gamma(K^*(892)^+ \ell^+ \ell^-)/\Gamma_{\text{total}}$

Γ_{349}/Γ

Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE (units 10^{-7})	CL%	DOCUMENT ID	TECN	COMMENT	
$7.3^{+5.0}_{-4.2} \pm 2.1$	607	AUBERT,B	06J	BABR $e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

< 22	90	607 ISHIKAWA	03	BELL $e^+ e^- \rightarrow \gamma(4S)$	
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607 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\pi^+ e^+ \mu^-)/\Gamma_{\text{total}}$

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0064	90	608 WEIR	90B MRK2	$e^+ e^- 29 \text{ GeV}$

608 WEIR 90B assumes B^+ production cross section from LUND.

Γ_{350}/Γ

$\Gamma(\pi^+ e^- \mu^+)/\Gamma_{\text{total}}$

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0064	90	609 WEIR	90B MRK2	$e^+ e^- 29 \text{ GeV}$

609 WEIR 90B assumes B^+ production cross section from LUND.

Γ_{351}/Γ

$\Gamma(K^+ e^+ \mu^-)/\Gamma_{\text{total}}$

Test of lepton family number conservation.

VALUE (units 10^{-7})	CL%	DOCUMENT ID	TECN	COMMENT
<0.91	90	610 AUBERT,B	06J BABR	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<8	90	610 AUBERT	02L BABR	Repl. by AUBERT,B 06J
$<6.4 \times 10^4$	90	611 WEIR	90B MRK2	$e^+ e^- 29 \text{ GeV}$

610 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

611 WEIR 90B assumes B^+ production cross section from LUND.

Γ_{352}/Γ

$\Gamma(K^+ e^- \mu^+)/\Gamma_{\text{total}}$

Test of lepton family number conservation.

VALUE (units 10^{-7})	CL%	DOCUMENT ID	TECN	COMMENT
<1.3	90	612 AUBERT,B	06J BABR	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$<6.4 \times 10^4$	90	613 WEIR	90B MRK2	$e^+ e^- 29 \text{ GeV}$
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612 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

613 WEIR 90B assumes B^+ production cross section from LUND.

Γ_{353}/Γ

$\Gamma(K^+ e^\pm \mu^\mp)/\Gamma_{\text{total}}$

Test of lepton family number conservation.

VALUE (units 10^{-7})	CL%	DOCUMENT ID	TECN	COMMENT
<0.91	90	614 AUBERT,B	06J BABR	$e^+ e^- \rightarrow \gamma(4S)$

614 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

Γ_{354}/Γ

$\Gamma(K^*(892)^+ e^+ \mu^-)/\Gamma_{\text{total}}$

Test of lepton family number conservation.

VALUE (units 10^{-7})	CL%	DOCUMENT ID	TECN	COMMENT
<13	90	615 AUBERT,B	06J BABR	$e^+ e^- \rightarrow \gamma(4S)$

615 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

Γ_{355}/Γ

$\Gamma(K^*(892)^+ e^- \mu^+)/\Gamma_{\text{total}}$

Test of lepton family number conservation.

VALUE (units 10^{-7})	CL%	DOCUMENT ID	TECN	COMMENT
<9.9	90	616 AUBERT,B	06J BABR	$e^+ e^- \rightarrow \gamma(4S)$

616 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

Γ_{356}/Γ

$\Gamma(K^*(892)^+ e^\pm \mu^\mp)/\Gamma_{\text{total}}$

Γ_{357}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-7})	CL%	DOCUMENT ID	TECN	COMMENT	
< 1.4	90	617 AUBERT,B	06J BABR	$e^+ e^- \rightarrow \gamma(4S)$	
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$					
<79	90	617 AUBERT	02L BABR	Repl. by AUBERT,B 06J	

617 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\pi^- e^+ e^+)/\Gamma_{\text{total}}$

Γ_{358}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
$<1.6 \times 10^{-6}$	90	618 EDWARDS	02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$					
<0.0039	90	619 WEIR	90B MRK2	$e^+ e^- 29 \text{ GeV}$	

618 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

619 WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^- \mu^+ \mu^+)/\Gamma_{\text{total}}$

Γ_{359}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
$<1.4 \times 10^{-6}$	90	620 EDWARDS	02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$					
<0.0091	90	621 WEIR	90B MRK2	$e^+ e^- 29 \text{ GeV}$	

620 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

621 WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^- e^+ \mu^+)/\Gamma_{\text{total}}$

Γ_{360}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
$<1.3 \times 10^{-6}$	90	622 EDWARDS	02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$					
<0.0064	90	623 WEIR	90B MRK2	$e^+ e^- 29 \text{ GeV}$	

622 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

623 WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\rho^- e^+ e^+)/\Gamma_{\text{total}}$

Γ_{361}/Γ

Test of total lepton number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT	
<2.6	90	624 EDWARDS	02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	

624 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\rho^- \mu^+ \mu^+)/\Gamma_{\text{total}}$

Γ_{362}/Γ

Test of total lepton number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT	
<5.0	90	625 EDWARDS	02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	

625 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(\rho^- e^+ \mu^+)/\Gamma_{\text{total}}$

Γ_{363}/Γ

Test of total lepton number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<3.3	90	626 EDWARDS 02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	

626 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^- e^+ e^+)/\Gamma_{\text{total}}$

Γ_{364}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<1.0 \times 10^{-6}$	90	627 EDWARDS 02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.0039 90 628 WEIR 90B MRK2 $e^+ e^-$ 29 GeV

627 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

628 WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^- \mu^+ \mu^+)/\Gamma_{\text{total}}$

Γ_{365}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<1.8 \times 10^{-6}$	90	629 EDWARDS 02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.0091 90 630 WEIR 90B MRK2 $e^+ e^-$ 29 GeV

629 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

630 WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^- e^+ \mu^+)/\Gamma_{\text{total}}$

Γ_{366}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<2.0 \times 10^{-6}$	90	631 EDWARDS 02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	

• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.0064 90 632 WEIR 90B MRK2 $e^+ e^-$ 29 GeV

631 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

632 WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^*(892)^- e^+ e^+)/\Gamma_{\text{total}}$

Γ_{367}/Γ

Test of total lepton number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<2.8	90	633 EDWARDS 02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	

633 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^*(892)^- \mu^+ \mu^+)/\Gamma_{\text{total}}$

Γ_{368}/Γ

Test of total lepton number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<8.3	90	634 EDWARDS 02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$	

634 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

$\Gamma(K^*(892)^- e^+ \mu^+)/\Gamma_{\text{total}}$

Test of total lepton number conservation.

<u>VALUE</u> (units 10^{-6})	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<4.4	90	635 EDWARDS	02B CLE2	$e^+ e^- \rightarrow \gamma(4S)$

635 Assumes equal production of B^+ and B^0 at the $\gamma(4S)$.

 Γ_{369}/Γ **POLARIZATION IN B^+ DECAY**

In decays involving two vector mesons, one can distinguish among the states in which meson polarizations are both longitudinal (L) or both are transverse and parallel (\parallel) or perpendicular (\perp) to each other with the parameters Γ_L/Γ , Γ_\perp/Γ , and the relative phases ϕ_\parallel and ϕ_\perp . See the definitions in the note on “Polarization in B Decays” review in the B^0 Particle Listings.

 Γ_L/Γ in $B^+ \rightarrow \bar{D}^{*0} \rho^+$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.892 ± 0.018 ± 0.016	CSORNA	03	$e^+ e^- \rightarrow \gamma(4S)$

 Γ_L/Γ in $B^+ \rightarrow \bar{D}^{*0} K^{*+}$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.86 ± 0.06 ± 0.03	AUBERT	04K BABR	$e^+ e^- \rightarrow \gamma(4S)$

 Γ_L/Γ in $B^+ \rightarrow J/\psi K^{*+}$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.604 ± 0.015 ± 0.018	ITOH	05	$e^+ e^- \rightarrow \gamma(4S)$

 Γ_\perp/Γ in $B^+ \rightarrow J/\psi K^{*+}$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.180 ± 0.014 ± 0.010	ITOH	05	$e^+ e^- \rightarrow \gamma(4S)$

 Γ_L/Γ in $B^+ \rightarrow \phi K^*(892)^+$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.50 ± 0.07 OUR AVERAGE	CHEN	05A BELL	$e^+ e^- \rightarrow \gamma(4S)$
0.52 ± 0.08 ± 0.03	AUBERT	03V BABR	$e^+ e^- \rightarrow \gamma(4S)$
0.46 ± 0.12 ± 0.03			

 Γ_\perp/Γ in $B^+ \rightarrow \phi K^*$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.19 ± 0.08 ± 0.02	CHEN	05A BELL	$e^+ e^- \rightarrow \gamma(4S)$

 ϕ_\parallel in $B^+ \rightarrow \phi K^{*+}$

<u>VALUE</u> ($^\circ$)	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
2.10 ± 0.28 ± 0.04	CHEN	05A BELL	$e^+ e^- \rightarrow \gamma(4S)$

 ϕ_\perp in $B^+ \rightarrow \phi K^{*+}$

<u>VALUE</u> ($^\circ$)	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
2.31 ± 0.30 ± 0.07	CHEN	05A BELL	$e^+ e^- \rightarrow \gamma(4S)$

Γ_L/Γ in $B^+ \rightarrow \rho^0 K^*(892)^+$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.96^{+0.04}_{-0.15} \pm 0.04$	AUBERT	03V	BABR $e^+ e^- \rightarrow \gamma(4S)$

$\Gamma_L/\Gamma(B^+ \rightarrow K^*(892)^0 \rho^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.48 ± 0.08 OUR AVERAGE			
$0.52 \pm 0.10 \pm 0.04$	AUBERT,B	06G	BABR $e^+ e^- \rightarrow \gamma(4S)$
$0.43 \pm 0.11^{+0.05}_{-0.02}$	ZHANG	05D	BELL $e^+ e^- \rightarrow \gamma(4S)$

Γ_L/Γ in $B^+ \rightarrow \rho^+ \rho^0$

VALUE	DOCUMENT ID	TECN	COMMENT
0.91 ± 0.04 OUR AVERAGE			
$0.905 \pm 0.042^{+0.023}_{-0.027}$	AUBERT,BE	06G	BABR $e^+ e^- \rightarrow \gamma(4S)$
$0.948 \pm 0.106 \pm 0.021$	ZHANG	03B	BELL $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.97^{+0.03}_{-0.07} \pm 0.04$	AUBERT	03V	BABR Repl. by AUBERT,BE 06G

Γ_L/Γ in $B^+ \rightarrow \omega \rho^+$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.82 \pm 0.11 \pm 0.02$	AUBERT,B	06T	BABR $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.88^{+0.12}_{-0.15} \pm 0.03$	AUBERT	05O	BABR Repl. by AUBERT,B 06T

CP VIOLATION

A_{CP} is defined as

$$\frac{B(B^- \rightarrow \bar{f}) - B(B^+ \rightarrow f)}{B(B^- \rightarrow \bar{f}) + B(B^+ \rightarrow f)},$$

the CP-violation charge asymmetry of exclusive B^- and B^+ decay.

$A_{CP}(B^+ \rightarrow J/\psi(1S) K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.015 ± 0.017 OUR AVERAGE			Error includes scale factor of 1.2.
$0.030 \pm 0.014 \pm 0.010$	636 AUBERT	05J	BABR $e^+ e^- \rightarrow \gamma(4S)$
$-0.026 \pm 0.022 \pm 0.017$	ABE	03B	BELL $e^+ e^- \rightarrow \gamma(4S)$
$0.018 \pm 0.043 \pm 0.004$	637 BONVICINI	00	CLE2 $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.03 \pm 0.015 \pm 0.006$	AUBERT	04P	BABR Repl. by AUBERT 05J
$0.003 \pm 0.030 \pm 0.004$	AUBERT	02F	BABR Repl. by AUBERT 04P

636 The result reported corresponds to $-A_{CP}$.

637 A $+0.3\%$ correction is applied due to a slightly higher reconstruction efficiency for the positive kaons.

$A_{CP}(B^+ \rightarrow J/\psi(1S)\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.09 ± 0.08 OUR AVERAGE			
0.123 ± 0.085 ± 0.004	AUBERT	04P	BABR $e^+ e^- \rightarrow \gamma(4S)$
-0.023 ± 0.164 ± 0.015	ABE	03B	BELL $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.01 ± 0.22 ± 0.01	AUBERT	02F	BABR Repl. by AUBERT 04P

$A_{CP}(B^+ \rightarrow J/\psi K^*(892)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.048 ± 0.029 ± 0.016	638	AUBERT	05J BABR $e^+ e^- \rightarrow \gamma(4S)$

638 The result reported corresponds to $-A_{CP}$.

$A_{CP}(B^+ \rightarrow \psi(2S)K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.025 ± 0.024 OUR AVERAGE			
0.052 ± 0.059 ± 0.020	AUBERT	05J	BABR $e^+ e^- \rightarrow \gamma(4S)$
-0.042 ± 0.020 ± 0.017	ABE	03B	BELL $e^+ e^- \rightarrow \gamma(4S)$
0.02 ± 0.091 ± 0.01	639 BONVICINI	00 CLE2	$e^+ e^- \rightarrow \gamma(4S)$

639 A +0.3% correction is applied due to a slightly higher reconstruction efficiency for the positive kaons.

$A_{CP}(B^+ \rightarrow \psi(2S)K^*(892)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.077 ± 0.207 ± 0.051	640	AUBERT	05J BABR $e^+ e^- \rightarrow \gamma(4S)$

640 The result reported corresponds to $-A_{CP}$.

$A_{CP}(B^+ \rightarrow \chi_{c1}(1P)\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.07 ± 0.18 ± 0.02	KUMAR	06	BELL $e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \chi_{c0}K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.065 ± 0.20 ± 0.035	GARMASH	06	BELL $e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \chi_{c1}K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.009 ± 0.033 OUR AVERAGE			
-0.01 ± 0.03 ± 0.02	KUMAR	06	BELL $e^+ e^- \rightarrow \gamma(4S)$

641 The result reported corresponds to $-A_{CP}$.

$A_{CP}(B^+ \rightarrow \chi_{c1}K^*(892)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.471 ± 0.378 ± 0.268	642	AUBERT	05J BABR $e^+ e^- \rightarrow \gamma(4S)$

642 The result reported corresponds to $-A_{CP}$.

$A_{CP}(B^+ \rightarrow \bar{D}^0 \pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.008±0.008	ABE 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow D_{CP(+1)} \pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.035±0.024	ABE 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow D_{CP(-1)} \pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.017±0.026	ABE 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \bar{D}^0 K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.066±0.036	ABE 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.003±0.080±0.037	643 ABE	03D	BELL	Repl. by SWAIN 03
0.04 ± 0.06 ± 0.03	644 SWAIN	03	BELL	Repl. by ABE 06

643 Corresponds to 90% confidence range $-0.15 < A_{CP} < 0.16$.

644 Corresponds to 90% confidence range $-0.07 < A_{CP} < 0.15$.

$r_B(B^+ \rightarrow D^0 K^+)$

$r_B^{(*)}$ and $\delta_B^{(*)}$ are the amplitude ratios and relative strong phases between the amplitudes of $A_{CP}(B^+ \rightarrow D^{(*)0} K^+)$ and $A_{CP}(B^+ \rightarrow \bar{D}^{(*)0} K^+)$,

VALUE	DOCUMENT ID	TECN	COMMENT
0.14 ±0.06 OUR AVERAGE			

0.159 ^{+0.054} _{-0.050} ± 0.050	645 POLUEKTOV 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$
0.12 ± 0.08 ± 0.05	646 AUBERT,B 05Y	BABR	$e^+ e^- \rightarrow \gamma(4S)$

645 Uses a Dalitz plot analysis of the $\bar{D}^0 \rightarrow K_S^0 \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.

646 Uses a Dalitz analysis of neutral D decays to $K_S^0 \pi^+ \pi^-$ in the processes $B^\pm \rightarrow D^{(*)} K^\pm$, $D^* \rightarrow D \pi^0$, $D \gamma$.

$\delta_B(B^+ \rightarrow D^0 K^+)$

VALUE (degrees)	DOCUMENT ID	TECN	COMMENT
135 ±26 OUR AVERAGE			

145.7 ^{+19.0} _{-19.7} ± 23.1	647 POLUEKTOV 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$
104 ± 45 ± 23	648 AUBERT,B 05Y	BABR	$e^+ e^- \rightarrow \gamma(4S)$

647 Uses a Dalitz plot analysis of the $\bar{D}^0 \rightarrow K_S^0 \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.

648 Uses a Dalitz analysis of neutral D decays to $K_S^0 \pi^+ \pi^-$ in the processes $B^\pm \rightarrow D^{(*)} K^\pm$, $D^* \rightarrow D \pi^0$, $D \gamma$.

$r_B(B^+ \rightarrow D K^{*+})$

r_B and δ_B are the amplitude ratios and relative strong phases between the amplitudes of $A_{CP}(B^+ \rightarrow D K^{*+})$ and $A_{CP}(B^+ \rightarrow \bar{D} K^{*+})$,

VALUE	DOCUMENT ID	TECN	COMMENT
0.564$^{+0.216}_{-0.155}$$\pm 0.093$	649 POLUEKTOV 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$
649 Uses a Dalitz plot analysis of the $\bar{D}^0 \rightarrow K_S^0 \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.			

 $\delta_B(B^+ \rightarrow D K^{*+})$

VALUE (degrees)	DOCUMENT ID	TECN	COMMENT
242.6$^{+20.2}_{-23.2}$$\pm 49.4$	650 POLUEKTOV 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$
650 Uses a Dalitz plot analysis of the $\bar{D}^0 \rightarrow K_S^0 \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.			

 $A_{CP}(B^+ \rightarrow [K^- \pi^+]_D K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
+0.88$^{+0.77}_{-0.62}$$\pm 0.06$	SAIGO 05	BELL	$e^+ e^- \rightarrow \gamma(4S)$

 $A_{CP}(B^+ \rightarrow [K^- \pi^+]_{\bar{D}} K^*(892)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.22$\pm 0.61$$\pm 0.17$	AUBERT,B 05V	BABR	$e^+ e^- \rightarrow \gamma(4S)$

 $A_{CP}(B^+ \rightarrow [K^- \pi^+]_D \pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
+0.30$^{+0.29}_{-0.25}$$\pm 0.06$	SAIGO 05	BELL	$e^+ e^- \rightarrow \gamma(4S)$

 $A_{CP}(B^+ \rightarrow [\pi^+ \pi^- \pi^0]_D K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.02$\pm 0.16$$\pm 0.03$	AUBERT,B 05T	BABR	$e^+ e^- \rightarrow \gamma(4S)$

 $A_{CP}(B^+ \rightarrow D_{CP(+1)} K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.22± 0.14 OUR AVERAGE	Error includes scale factor of 1.4.		
0.06 ± 0.14 ± 0.05	ABE 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$
0.35 ± 0.13 ± 0.04	AUBERT 06J	BABR	$e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.07 ± 0.17 ± 0.06	AUBERT 04N	BABR	Repl. by AUBERT 06J
0.29 ± 0.26 ± 0.05	651 ABE 03D	BELL	Repl. by SWAIN 03
0.06 ± 0.19 ± 0.04	652 SWAIN 03	BELL	Repl. by ABE 06

651 Corresponds to 90% confidence range $-0.14 < A_{CP} < 0.73$.

652 Corresponds to 90% confidence range $-0.26 < A_{CP} < 0.38$.

$A_{CP}(B^+ \rightarrow D_{CP(-1)} K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.09 ± 0.10 OUR AVERAGE			
-0.12 ± 0.14 ± 0.05	ABE	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
-0.06 ± 0.13 ± 0.04	AUBERT	06J	BABR $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
-0.22 ± 0.24 ± 0.04	653 ABE	03D	BELL Repl. by SWAIN 03
-0.19 ± 0.17 ± 0.05	654 SWAIN	03	BELL Repl. by ABE 06
653 Corresponds to 90% confidence range $-0.62 < A_{CP} < 0.18$.			
654 Corresponds to 90% confidence range $-0.47 < A_{CP} < 0.11$.			

$A_{CP}(B^+ \rightarrow \bar{D}^{*0} \pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.014 ± 0.015			
	ABE	06	BELL $e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow (D_{CP(+1)}^*)^0 \pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.021 ± 0.045			
	ABE	06	BELL $e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow (D_{CP(-1)}^*)^0 \pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.090 ± 0.051			
	ABE	06	BELL $e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow D^{*0} K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.089 ± 0.086			
	ABE	06	BELL $e^+ e^- \rightarrow \gamma(4S)$

$r_B^*(B^+ \rightarrow D^{*0} K^+)$

$r_B^{(*)}$ and $\delta_B^{(*)}$ are the amplitude ratios and relative strong phases between the amplitudes of $A_{CP}(B^+ \rightarrow D^{(*)0} K^+)$ and $A_{CP}(B^+ \rightarrow \bar{D}^{(*)0} K^+)$,

VALUE	DOCUMENT ID	TECN	COMMENT
0.17 ± 0.08 OUR AVERAGE			
0.175 ^{+0.108} _{-0.099} ± 0.050	655 POLUEKTOV	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
0.17 ± 0.10 ± 0.04	656 AUBERT,B	05Y	BABR $e^+ e^- \rightarrow \gamma(4S)$
655 Uses a Dalitz plot analysis of the $\bar{D}^0 \rightarrow K_S^0 \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.			
656 Uses a Dalitz analysis of neutral D decays to $K_S^0 \pi^+ \pi^-$ in the processes $B^\pm \rightarrow D^{(*)} K^\pm$, $D^* \rightarrow D \pi^0$, $D \gamma$.			

$\delta_B^*(B^+ \rightarrow D^{*0} K^+)$

VALUE (degrees)	DOCUMENT ID	TECN	COMMENT
299 ± 31 OUR AVERAGE			
302.0 ^{+33.8} _{-35.1} ± 23.7	657 POLUEKTOV	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
296 ± 41 ± 20	658 AUBERT,B	05Y	BABR $e^+ e^- \rightarrow \gamma(4S)$

- 657 Uses a Dalitz plot analysis of the $\bar{D}^0 \rightarrow K_S^0 \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.
 658 Uses a Dalitz analysis of neutral D decays to $K_S^0 \pi^+ \pi^-$ in the processes $B^\pm \rightarrow D^{(*)} K^\pm$, $D^* \rightarrow D \pi^0$, $D \gamma$.

$A_{CP}(B^+ \rightarrow D_{CP(+1)}^{*0} K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.15 ± 0.16 OUR AVERAGE			
$-0.20 \pm 0.22 \pm 0.04$	ABE 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$
$-0.10 \pm 0.23 \begin{matrix} +0.03 \\ -0.04 \end{matrix}$	AUBERT 05N	BABR	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow D_{CP(-1)}^* K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.13 \pm 0.30 \pm 0.08$			
ABE 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$	

$A_{CP}(B^+ \rightarrow D_{CP(+1)} K^*(892)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.08 \pm 0.19 \pm 0.08$			
AUBERT,B 05U	BABR	$e^+ e^- \rightarrow \gamma(4S)$	

$A_{CP}(B^+ \rightarrow D_{CP(-1)} K^*(892)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.26 \pm 0.40 \pm 0.12$			
AUBERT,B 05U	BABR	$e^+ e^- \rightarrow \gamma(4S)$	

$A_{CP}(B^+ \rightarrow D^{*+} \bar{D}^{*0})$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.15 \pm 0.11 \pm 0.02$			
AUBERT,B 06A	BABR	$e^+ e^- \rightarrow \gamma(4S)$	

$A_{CP}(B^+ \rightarrow D^{*+} \bar{D}^0)$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.06 \pm 0.13 \pm 0.02$			
AUBERT,B 06A	BABR	$e^+ e^- \rightarrow \gamma(4S)$	

$A_{CP}(B^+ \rightarrow D^+ \bar{D}^{*0})$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.13 \pm 0.18 \pm 0.04$			
AUBERT,B 06A	BABR	$e^+ e^- \rightarrow \gamma(4S)$	

$A_{CP}(B^+ \rightarrow D^+ \bar{D}^0)$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.13 \pm 0.14 \pm 0.02$			
AUBERT,B 06A	BABR	$e^+ e^- \rightarrow \gamma(4S)$	

$A_{CP}(B^+ \rightarrow K_S^0 \pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.00 ± 0.04 OUR AVERAGE			
-0.029 $\pm 0.039 \pm 0.010$	659 AUBERT,BE	06C BABR	$e^+ e^- \rightarrow \gamma(4S)$
0.05 $\pm 0.05 \pm 0.01$	660 CHAO	05A BELL	$e^+ e^- \rightarrow \gamma(4S)$
0.18 ± 0.24	661 CHEN	00 CLE2	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$-0.09 \pm 0.05 \pm 0.01$	662 AUBERT,BE	05E BABR	Repl. by AUBERT,BE 06C
$-0.05 \pm 0.08 \pm 0.01$	663 AUBERT	04M BABR	Repl. by AUBERT,BE 05E
$0.07 \pm 0.09 \pm 0.01$	664 UNNO	03 BELL	Repl. by CHAO 05A
$0.46 \pm 0.15 \pm 0.02$	665 CASEY	02 BELL	Repl. by UNNO 03
$0.098^{+0.430}_{-0.343} \pm 0.020_{-0.063}$	666 ABE	01K BELL	Repl. by CASEY 02
$-0.21 \pm 0.18 \pm 0.03$	667 AUBERT	01E BABR	Repl. by AUBERT 04M

659 Corresponds to 90% confidence range $-0.092 < A_{CP} < 0.036$.

660 Corresponds to a 90% CL interval of $-0.04 < A_{CP} < 0.13$.

661 Corresponds to 90% confidence range $-0.22 < A_{CP} < 0.56$.

662 Corresponds to 90% confidence range $-0.16 < A_{CP} < -0.02$.

663 90% CL interval $-0.18 < A_{CP} < 0.08$

664 Corresponds to 90% confidence range $-0.10 < A_{CP} < +0.22$.

665 Corresponds to 90% confidence range $+0.19 < A_{CP} < +0.72$.

666 Corresponds to 90% confidence range $-0.53 < A_{CP} < 0.82$.

667 Corresponds to 90% confidence range $-0.51 < A_{CP} < 0.09$.

$A_{CP}(B^+ \rightarrow K^+ \pi^0)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.04 ± 0.04 OUR AVERAGE			
0.06 $\pm 0.06 \pm 0.01$	668 AUBERT	05L BABR	$e^+ e^- \rightarrow \gamma(4S)$
0.04 $\pm 0.05 \pm 0.02$	669 CHAO	04B BELL	$e^+ e^- \rightarrow \gamma(4S)$
-0.29 ± 0.23	670 CHEN	00 CLE2	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.06 $\pm 0.06 \pm 0.02$	668 CHAO	05A BELL	Repl. by CHAO 04B
$-0.09 \pm 0.09 \pm 0.01$	671 AUBERT	03L BABR	Repl. by AUBERT 05L
$-0.02 \pm 0.19 \pm 0.02$	672 CASEY	02 BELL	Repl. by CHAO 04B
$-0.059^{+0.222}_{-0.196} \pm 0.055_{-0.017}$	673 ABE	01K BELL	Repl. by CASEY 02
0.00 $\pm 0.18 \pm 0.04$	674 AUBERT	01E BABR	Repl. by AUBERT 03L

668 Corresponds to a 90% CL interval of $-0.06 < A_{CP} < 0.18$.

669 Corresponds to 90% CL interval of $-0.05 < A_{CP} < 0.13$.

670 Corresponds to 90% confidence range $-0.67 < A_{CP} < 0.09$.

671 Corresponds to 90% confidence range $-0.24 < A_{CP} < 0.06$.

672 Corresponds to 90% confidence range $-0.35 < A_{CP} < +0.30$.

673 Corresponds to 90% confidence range $-0.40 < A_{CP} < 0.36$.

674 Corresponds to 90% confidence range $-0.30 < A_{CP} < +0.30$.

$A_{CP}(B^+ \rightarrow K^+ \eta')$

VALUE	DOCUMENT ID	TECN	COMMENT
0.026 ± 0.021 OUR AVERAGE			
0.028 $\pm 0.028 \pm 0.021$	SCHUEMANN	06 BELL	$e^+ e^- \rightarrow \gamma(4S)$
0.033 $\pm 0.028 \pm 0.005$	675 AUBERT	05M BABR	$e^+ e^- \rightarrow \gamma(4S)$
$-0.11 \pm 0.11 \pm 0.02$	676 AUBERT	02E BABR	$e^+ e^- \rightarrow \gamma(4S)$
0.03 ± 0.12	677 CHEN	00 CLE2	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$0.037 \pm 0.045 \pm 0.011$	678 AUBERT	03W BABR	Repl. by AUBERT 05M
$-0.015 \pm 0.070 \pm 0.009$	679 CHEN	02B BELL	Repl. by SCHUE-MANN 06
$0.06 \pm 0.15 \pm 0.01$	680 ABE	01M BELL	Repl. by CHEN 02B

675 Corresponds to 90% confidence range $-0.012 < A_{CP} < 0.078$.

676 Corresponds to 90% confidence range $-0.28 < A_{CP} < 0.07$.

677 Corresponds to 90% confidence range $-0.17 < A_{CP} < 0.23$.

678 Corresponds to 90% confidence range $-0.04 < A_{CP} < 0.11$.

679 Corresponds to 90% confidence range $-0.13 < A_{CP} < 0.10$.

680 Corresponds to 90% confidence range $-0.20 < A_{CP} < 0.32$.

$A_{CP}(B^+ \rightarrow \eta' K^*(892)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.30^{+0.33}_{-0.37} \pm 0.02$	AUBERT	07E BABR	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \eta K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.25 ± 0.14 OUR AVERAGE			
$-0.20 \pm 0.15 \pm 0.01$	AUBERT,B	05K BABR	$e^+ e^- \rightarrow \gamma(4S)$
$-0.49 \pm 0.31 \pm 0.07$	CHANG	05A BELL	$e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$-0.52 \pm 0.24 \pm 0.01$	AUBERT	04H BABR	Repl. by AUBERT,B 05K

$A_{CP}(B^+ \rightarrow \eta K^*(892)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.01 \pm 0.08 \pm 0.02$	AUBERT,B	06H BABR	$e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			

$0.13 \pm 0.14 \pm 0.02$ AUBERT,B 04D BABR Repl. by AUBERT,B 06H

$A_{CP}(B^+ \rightarrow \eta K_0^*(1430)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.05 \pm 0.13 \pm 0.02$	AUBERT,B	06H BABR	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \eta K_2^*(1430)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.45 \pm 0.30 \pm 0.02$	AUBERT,B	06H BABR	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \omega K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.05 ± 0.06 OUR AVERAGE			
$0.05 \pm 0.09 \pm 0.01$	AUBERT,B	06E BABR	$e^+ e^- \rightarrow \gamma(4S)$
$0.05^{+0.08}_{-0.07} \pm 0.01$	JEN	06 BELL	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$-0.09 \pm 0.17 \pm 0.01$	AUBERT	04H BABR	Repl. by AUBERT,B 06E
$0.06^{+0.21}_{-0.18} \pm 0.01$	681 WANG	04A BELL	Repl. by JEN 06
$-0.21 \pm 0.28 \pm 0.03$	682 LU	02 BELL	Repl. by WANG 04A

681 Corresponds to 90% CL interval $0.15 < A_{CP} < 0.90$

682 Corresponds to 90% confidence range $-0.70 < A_{CP} < +0.38$.

$A_{CP}(B^+ \rightarrow K^{*0}\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.08 ± 0.10 OUR AVERAGE			Error includes scale factor of 1.8.
$-0.149 \pm 0.064 \pm 0.022$	GARMASH	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
$0.068 \pm 0.078 \begin{matrix} +0.070 \\ -0.067 \end{matrix}$	AUBERT,B	05N	BABR $e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow K^+\pi^-\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.023 ± 0.031 OUR AVERAGE			Error includes scale factor of 1.2.
$0.049 \pm 0.026 \pm 0.020$	GARMASH	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
$-0.013 \pm 0.037 \pm 0.011$	AUBERT,B	05N	BABR $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.01 \pm 0.07 \pm 0.03$	AUBERT	03M	BABR Repl. by AUBERT,B 05N

$A_{CP}(B^+ \rightarrow f_0(980)K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.04 \begin{matrix} +0.08 \\ -0.07 \end{matrix}$ OUR AVERAGE			Error includes scale factor of 1.1.
$-0.31 \pm 0.25 \pm 0.08$	683 AUBERT	060	BABR $e^+ e^- \rightarrow \gamma(4S)$
$-0.077 \pm 0.065 \begin{matrix} +0.046 \\ -0.026 \end{matrix}$	GARMASH	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
$0.088 \pm 0.095 \begin{matrix} +0.097 \\ -0.056 \end{matrix}$	AUBERT,B	05N	BABR $e^+ e^- \rightarrow \gamma(4S)$

683 Measured in the $B^+ \rightarrow K^+ K^- K^+$ decay.

$A_{CP}(B^+ \rightarrow f_2(1270)K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.59 \pm 0.22 \pm 0.036$	GARMASH	06	BELL $e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow X_0(1550)K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.04 \pm 0.07 \pm 0.02$	684 AUBERT	060	BABR $e^+ e^- \rightarrow \gamma(4S)$

684 Measured in the $B^+ \rightarrow K^+ K^- K^+$ decay.

$A_{CP}(B^+ \rightarrow \rho^0 K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.31 \begin{matrix} +0.11 \\ -0.09 \end{matrix}$ OUR AVERAGE			
$0.30 \pm 0.11 \begin{matrix} +0.11 \\ -0.04 \end{matrix}$	GARMASH	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
$0.32 \pm 0.13 \begin{matrix} +0.10 \\ -0.08 \end{matrix}$	AUBERT,B	05N	BABR $e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow K_0^*(1430)^0\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.00 ± 0.07 OUR AVERAGE			Error includes scale factor of 2.4.
$0.076 \pm 0.038 \begin{matrix} +0.028 \\ -0.022 \end{matrix}$	GARMASH	06	BELL $e^+ e^- \rightarrow \gamma(4S)$
$-0.064 \pm 0.032 \begin{matrix} +0.023 \\ -0.026 \end{matrix}$	AUBERT,B	05N	BABR $e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow K^*(892)^+ \pi^0)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.04±0.29±0.05	AUBERT	05X BABR	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \rho^0 K^*(892)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.20^{+0.32}_{-0.29}±0.04	AUBERT	03V BABR	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow K^*(892)^+ f_0(980))$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.34±0.21±0.03	AUBERT,B	06G BABR	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow K^*(892)^0 \rho^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.01±0.16±0.02	AUBERT,B	06G BABR	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow K^0 K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.10±0.26±0.03	685 AUBERT,BE	06C BABR	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.15±0.33±0.03	686 AUBERT,BE	05E BABR	Repl. by AUBERT,BE 06C
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685 Corresponds to 90% confidence range $-0.31 < A_{CP} < 0.54$.

686 Corresponds to 90% confidence range $-0.43 < A_{CP} < 0.68$.

$A_{CP}(B^+ \rightarrow K^+ K_S^0 K_S^0)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.04±0.11±0.02	687 AUBERT,B	04V BABR	$e^+ e^- \rightarrow \gamma(4S)$

687 Corresponds to 90% confidence range $-0.23 < A_{CP} < 0.15$.

$A_{CP}(B^+ \rightarrow K^+ K^- K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.017±0.026±0.015	AUBERT	06O BABR	$e^+ e^- \rightarrow \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.02 ± 0.07 ± 0.03	AUBERT	03M BABR	Repl. by AUBERT 060
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$A_{CP}(B^+ \rightarrow K^{*+} K^+ K^-)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.11±0.08±0.03	AUBERT,B	06U BABR	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow K^{*+} \pi^+ \pi^-)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.07±0.07±0.04	AUBERT,B	06U BABR	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \phi K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.01±0.06 OUR AVERAGE			
0.00±0.08±0.02	AUBERT	060	BABR $e^+ e^- \rightarrow \gamma(4S)$
-0.07±0.17 ^{+0.03} _{-0.02}	ACOSTA	05J	CDF $p\bar{p}$ at 1.96 TeV
0.01±0.12±0.05	688 CHEN	03B	BELL $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.04±0.09±0.01	689 AUBERT	04A	BABR Repl. by AUBERT 060
-0.05±0.20±0.03	690 AUBERT	02E	BABR $e^+ e^- \rightarrow \gamma(4S)$
688 Corresponds to 90% confidence range $-0.20 < A_{CP} < 0.22$.			
689 Corresponds to 90% confidence range $-0.10 < A_{CP} < 0.18$.			
690 Corresponds to 90% confidence range $-0.37 < A_{CP} < 0.28$.			

$A_{CP}(B^+ \rightarrow \phi K^*(892)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.05±0.11 OUR AVERAGE			
-0.02±0.14±0.03	691 CHEN	05A	BELL $e^+ e^- \rightarrow \gamma(4S)$
0.16±0.17±0.03	AUBERT	03V	BABR $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
-0.13±0.29 ^{+0.08} _{-0.11}	692 CHEN	03B	BELL Repl. by CHEN 05A
-0.43 ^{+0.36} _{-0.30} ±0.06	693 AUBERT	02E	BABR Repl. by AUBERT 03V
691 Corresponds to 90% confidence range $-0.25 < A_{CP} < 0.22$.			
692 Corresponds to 90% confidence range $-0.64 < A_{CP} < 0.36$.			
693 Corresponds to 90% confidence range $-0.88 < A_{CP} < 0.18$.			

$A_{CP}(B^+ \rightarrow \phi K^+ \gamma)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.26±0.14±0.05			
AUBERT	07Q	BABR	$e^+ e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \eta K^+ \gamma)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.13±0.08 OUR AVERAGE			
-0.09±0.12±0.01	694 AUBERT,B	06M	BABR $e^+ e^- \rightarrow \gamma(4S)$
-0.16±0.09±0.06	695 NISHIDA	05	BELL $e^+ e^- \rightarrow \gamma(4S)$
694 $m_{\eta K} < 3.25 \text{ GeV}/c^2$.			
695 $m_{\eta K} < 2.4 \text{ GeV}/c^2$			

$A_{CP}(B^+ \rightarrow \pi^+ \pi^0)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.02±0.07 OUR AVERAGE			
-0.01±0.10±0.02	696 AUBERT	05L	BABR $e^+ e^- \rightarrow \gamma(4S)$
-0.02±0.10±0.01	697 CHAO	04B	BELL $e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.00±0.10±0.02	698 CHAO	05A	BELL Repl. by CHAO 04B
-0.03 ^{+0.18} _{-0.17} ±0.02	699 AUBERT	03L	BABR Repl. by AUBERT 05L
0.30±0.30 ^{+0.06} _{-0.04}	700 CASEY	02	BELL Repl. by CHAO 04B

- 696 Corresponds to a 90% CL interval of $-0.19 < A_{CP} < 0.21$.
 697 This corresponds to 90% CL interval of $-0.18 < A_{CP} < 0.14$.
 698 Corresponds to a 90% CL interval of $-0.17 < A_{CP} < 0.16$.
 699 Corresponds to 90% confidence range $-0.32 < A_{CP} < 0.27$.
 700 Corresponds to 90% confidence range $-0.23 < A_{CP} < +0.86$.

$A_{CP}(B^+ \rightarrow \pi^+\pi^-\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.007 \pm 0.077 \pm 0.025$	AUBERT,B 05G	BABR	$e^+e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$			
$-0.39 \pm 0.33 \pm 0.12$	AUBERT	03M	BABR Repl. by AUBERT 05G

$A_{CP}(B^+ \rightarrow \rho^0\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.074 \pm 0.120^{+0.035}_{-0.055}$	AUBERT,B 05G	BABR	$e^+e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$			
$-0.19 \pm 0.11 \pm 0.02$	AUBERT	04Z	BABR Repl. by AUBERT,B 05G

$A_{CP}(B^+ \rightarrow f_2(1270)\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.004 \pm 0.247^{+0.028}_{-0.032}$	AUBERT,B 05G	BABR	$e^+e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \rho^+\pi^0)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.15 ± 0.12 OUR AVERAGE			
$\bullet \bullet \bullet$ OUR AVERAGE			
$0.06 \pm 0.17^{+0.04}_{-0.05}$	ZHANG	05A	BELL $e^+e^- \rightarrow \gamma(4S)$
$0.24 \pm 0.16 \pm 0.06$	AUBERT	04Z	BABR $e^+e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \rho^+\rho^0)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.08 ± 0.13 OUR AVERAGE			
$\bullet \bullet \bullet$ OUR AVERAGE			
$-0.12 \pm 0.13 \pm 0.10$	AUBERT,BE 06G	BABR	$e^+e^- \rightarrow \gamma(4S)$
$0.00 \pm 0.22 \pm 0.03$	ZHANG 03B	BELL	$e^+e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$			
$-0.19 \pm 0.23 \pm 0.03$	AUBERT	03V	BABR Repl. by AUBERT,BE 06G

$A_{CP}(B^+ \rightarrow \omega\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.04 ± 0.06 OUR AVERAGE			
$\bullet \bullet \bullet$ OUR AVERAGE			
$-0.01 \pm 0.10 \pm 0.01$	AUBERT,B 06E	BABR	$e^+e^- \rightarrow \gamma(4S)$
$-0.02 \pm 0.09 \pm 0.01$	JEN 06	BELL	$e^+e^- \rightarrow \gamma(4S)$
-0.34 ± 0.25	701 CHEN 00	CLE2	$e^+e^- \rightarrow \gamma(4S)$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$			
$0.03 \pm 0.16 \pm 0.01$	AUBERT	04H	BABR Repl. by AUBERT,B 06E
$0.50^{+0.23}_{-0.20} \pm 0.02$	702 WANG 04A	BELL	Repl. by JEN 06
$-0.01^{+0.29}_{-0.31} \pm 0.03$	703 AUBERT 02E	BABR	Repl. by AUBERT 04H

701 Corresponds to 90% confidence range $-0.75 < A_{CP} < 0.07$.

702 Corresponds to 90% CL interval $-0.25 < A_{CP} < 0.41$

703 Corresponds to 90% confidence range $-0.50 < A_{CP} < 0.46$.

$A_{CP}(B^+ \rightarrow \omega\rho^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.04±0.18±0.02	AUBERT,B	06T	BABR $e^+e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.05±0.26±0.02	AUBERT	05O	BABR Repl. by AUBERT,B 06T

$A_{CP}(B^+ \rightarrow \eta\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.05±0.10 OUR AVERAGE			
-0.13±0.12±0.01	AUBERT,B	05K	BABR $e^+e^- \rightarrow \gamma(4S)$
0.07±0.15±0.03	CHANG	05A	BELL $e^+e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
-0.44±0.18±0.01	AUBERT	04H	BABR Repl. by AUBERT,B 05K

$A_{CP}(B^+ \rightarrow \eta'\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.15±0.15 OUR AVERAGE			
0.20 ^{+0.37} _{-0.36} ±0.04	SCHUEMANN	06	BELL $e^+e^- \rightarrow \gamma(4S)$
0.14±0.16±0.01	AUBERT,B	05K	BABR $e^+e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \eta\rho^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.02±0.18±0.02	AUBERT,B	05K	BABR $e^+e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow \eta'\rho^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.04±0.28±0.02	AUBERT	07E	BABR $e^+e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow p\bar{p}\pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.16±0.22±0.01	WANG	04	BELL $e^+e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow p\bar{p}K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.05±0.11±0.01	WANG	04	BELL $e^+e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow K^+\ell^+\ell^-)$

VALUE	DOCUMENT ID	TECN	COMMENT
-0.07±0.22±0.02	AUBERT,B	06J	BABR $e^+e^- \rightarrow \gamma(4S)$

$A_{CP}(B^+ \rightarrow K^{*+}\ell^+\ell^-)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.03±0.23±0.03	AUBERT,B	06J	BABR $e^+e^- \rightarrow \gamma(4S)$

$\gamma(B^+ \rightarrow D^{(*)} K^{(*)} +)$

For angle $\gamma(\phi_3)$ of the CKM unitarity triangle, see the review on “*CP* Violation” in the Reviews section.

VALUE ($^\circ$)	DOCUMENT ID	TECN	COMMENT
57\pm17 OUR AVERAGE			
53 $^{+15}_{-18}$ \pm 10	704 POLUEKTOV 06	BELL	$e^+ e^- \rightarrow \gamma(4S)$
70 \pm 31 $^{+18}_{-15}$	705 AUBERT,B 05Y	BABR	$e^+ e^- \rightarrow \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
77 $^{+17}_{-19}$ \pm 17	706 POLUEKTOV 04	BELL	Repl. by POLUEKTOV 06
704 Uses a Dalitz plot analysis of the $\bar{D}^0 \rightarrow K_S^0 \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes. The corresponding two standard deviations interval for gamma is $8^\circ < \gamma < 111^\circ$.			
705 Uses a Dalitz plot analysis of neutral $D \rightarrow K_S^0 \pi^+ \pi^-$ decays coming from $B^\pm \rightarrow D K^\pm$ and $B^\pm \rightarrow D^{*0} K^\pm$ followed by $D^{*0} \rightarrow D \pi^0$, $D\gamma$. The corresponding two standard deviations interval for gamma is $12^\circ < \gamma < 137^\circ$.			
706 Uses a Dalitz plot analysis of the 3-body $D \rightarrow K_S^0 \pi^+ \pi^-$ decays coming from $B^\pm \rightarrow D K^\pm$ and $B^\pm \rightarrow D^* K^\pm$ followed by $D^* \rightarrow D \pi^0$; here we use D to denote that the neutral D meson produced in the decay is an admixture of D^0 and \bar{D}^0 . The corresponding two standard deviations interval for γ is $26^\circ < \gamma < 126^\circ$. POLUEKTOV 04 also reports the amplitude ratios and the strong phases.			

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ZHANG	05A	PRL 94 031801	J. Zhang <i>et al.</i>	(BELLE Collab.)
ZHANG	05B	PR D71 091107R	L.M. Zhang <i>et al.</i>	(BELLE Collab.)
ZHANG	05D	PRL 95 141801	J. Zhang <i>et al.</i>	(BELLE Collab.)
ABDALLAH	04E	EPJ C33 307	J. Abdallah <i>et al.</i>	(DELPHI Collab.)
ABE	04D	PR D69 112002	K. Abe <i>et al.</i>	(BELLE Collab.)
AUBERT	04A	PR D69 011102	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT	04C	PRL 92 111801	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	04H	PRL 92 061801	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT	04K	PRL 92 141801	B. Aubert <i>et al.</i>	(BABAR Collab.)

AUBERT	04M	PRL 92 201802	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT	04N	PRL 92 202002	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT	04O	PRL 92 221803	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT	04P	PRL 92 241802	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT	04Q	PR D69 051101R	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT	04T	PR D69 071103R	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT	04Y	PRL 93 041801	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	04Z	PRL 93 051802	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,B	04B	PR D70 011101R	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,B	04D	PR D70 032006	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,B	04L	PRL 93 131804	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,B	04P	PR D70 092001	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,B	04S	PRL 93 181801	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,B	04U	PR D70 091105R	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,B	04V	PRL 93 181805	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,BE	04	PR D70 111102R	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,BE	04A	PR D70 112006	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,BE	04B	PR D70 091106	B. Aubert <i>et al.</i>	(BABAR Collab.)
CHAO	04	PR D69 111102R	Y. Chao <i>et al.</i>	(BELLE Collab.)
CHAO	04B	PRL 93 191802	Y. Chao <i>et al.</i>	(BELLE Collab.)
CHISTOV	04	PRL 93 051803	R. Chistov <i>et al.</i>	(BELLE Collab.)
DRUTSKOY	04	PRL 92 051801	A. Drutskoy <i>et al.</i>	(BELLE Collab.)
GARMASH	04	PR D69 012001	A. Garmash <i>et al.</i>	(BELLE Collab.)
LEE	04	PRL 93 211801	Y.-J. Lee <i>et al.</i>	(BELLE Collab.)
MAJUMDER	04	PR D70 111103R	G. Majumder <i>et al.</i>	(BELLE Collab.)
NAKAO	04	PR D69 112001	M. Nakao <i>et al.</i>	(BELLE Collab.)
POLUEKTOV	04	PR D70 072003	A. Poluektov <i>et al.</i>	(BELLE Collab.)
SCHWANDA	04	PRL 93 131803	C. Schwanda <i>et al.</i>	(BELLE Collab.)
WANG	04	PRL 92 131801	M.Z. Wang <i>et al.</i>	(BELLE Collab.)
WANG	04A	PR D70 012001	C.H. Wang <i>et al.</i>	(BELLE Collab.)
ZANG	04	PR D69 017101	S.L. Zang <i>et al.</i>	(BELLE Collab.)
ABE	03B	PR D67 032003	K. Abe <i>et al.</i>	(BELLE Collab.)
ABE	03D	PRL 90 131803	K. Abe <i>et al.</i>	(BELLE Collab.)
ADAM	03	PR D67 032001	N.E. Adam <i>et al.</i>	(CLEO Collab.)
ADAM	03B	PR D68 012004	N.E. Adam <i>et al.</i>	(CLEO Collab.)
ATHAR	03	PR D68 072003	S.B. Athar <i>et al.</i>	(CLEO Collab.)
AUBERT	03K	PRL 90 231801	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	03L	PRL 91 021801	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	03M	PRL 91 051801	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	03O	PRL 91 071801	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	03U	PRL 91 221802	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	03V	PRL 91 171802	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	03W	PRL 91 161801	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	03X	PR D68 092001	B. Aubert <i>et al.</i>	(BaBar Collab.)
BORNHEIM	03	PR D68 052002	A. Bornheim <i>et al.</i>	(CLEO Collab.)
CHEN	03B	PRL 91 201801	K.-F. Chen <i>et al.</i>	(BELLE Collab.)
CHOI	03	PRL 91 262001	S.-K. Choi <i>et al.</i>	(CLEO Collab.)
CSORNA	03	PR D67 112002	S.E. Csorna <i>et al.</i>	(CLEO Collab.)
EDWARDS	03	PR D68 011102R	K.W. Edwards <i>et al.</i>	(CLEO Collab.)
FANG	03	PRL 90 071801	F. Fang <i>et al.</i>	(BELLE Collab.)
HUANG	03	PRL 91 241802	H.-C. Huang <i>et al.</i>	(BELLE Collab.)
ISHIKAWA	03	PRL 91 261601	A. Ishikawa <i>et al.</i>	(BELLE Collab.)
KROKOVNY	03B	PRL 91 262002	P. Krokovny <i>et al.</i>	(BELLE Collab.)
SWAIN	03	PR D68 051101R	S.K. Swain <i>et al.</i>	(BELLE Collab.)
UNNO	03	PR D68 011103R	Y. Unno <i>et al.</i>	(BELLE Collab.)
ZHANG	03B	PRL 91 221801	J. Zhang <i>et al.</i>	(BELLE Collab.)
ABE	02	PRL 88 021801	K. Abe <i>et al.</i>	(BELLE Collab.)
ABE	02B	PRL 88 031802	K. Abe <i>et al.</i>	(BELLE Collab.)
ABE	02H	PRL 88 171801	K. Abe <i>et al.</i>	(BELLE Collab.)
ABE	02K	PRL 88 181803	K. Abe <i>et al.</i>	(BELLE Collab.)
ABE	02N	PL B538 11	K. Abe <i>et al.</i>	(BELLE Collab.)
ABE	02O	PR D65 091103R	K. Abe <i>et al.</i>	(BELLE Collab.)
ABE	02W	PRL 89 151802	K. Abe <i>et al.</i>	(BELLE Collab.)
ACOSTA	02C	PR D65 092009	D. Acosta <i>et al.</i>	(CDF Collab.)
ACOSTA	02F	PR D66 052005	D. Acosta <i>et al.</i>	(CDF Collab.)
AHMED	02B	PR D66 031101R	S. Ahmed <i>et al.</i>	(CLEO Collab.)
AUBERT	02	PR D65 032001	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	02C	PRL 88 101805	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	02E	PR D65 051101R	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	02F	PR D65 091101R	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	02L	PRL 88 241801	B. Aubert <i>et al.</i>	(BaBar Collab.)

BRIERE	02	PRL 89 081803	R. Briere <i>et al.</i>	(CLEO Collab.)
CASEY	02	PR D66 092002	B.C.K. Casey <i>et al.</i>	(BELLE Collab.)
CHEN	02B	PL B546 196	K.-F. Chen <i>et al.</i>	(BELLE Collab.)
DRUTSKOY	02	PL B542 171	A. Drutskoy <i>et al.</i>	(BELLE Collab.)
DYTMAN	02	PR D66 091101R	S.A. Dytman <i>et al.</i>	(CLEO Collab.)
ECKHART	02	PRL 89 251801	E. Eckhart <i>et al.</i>	(CLEO Collab.)
EDWARDS	02B	PR D65 111102R	K.W. Edwards <i>et al.</i>	(CLEO Collab.)
GABYSHEV	02	PR D66 091102R	N. Gabyshev <i>et al.</i>	(BELLE Collab.)
GARMASH	02	PR D65 092005	A. Garmash <i>et al.</i>	(BELLE Collab.)
GODANG	02	PRL 88 021802	R. Godang <i>et al.</i>	(CLEO Collab.)
GORDON	02	PL B542 183	A. Gordon <i>et al.</i>	(BELLE Collab.)
LU	02	PRL 89 191801	R.-S. Lu <i>et al.</i>	(BELLE Collab.)
MAHAPATRA	02	PRL 88 101803	R. Mahapatra <i>et al.</i>	(CLEO Collab.)
NISHIDA	02	PRL 89 231801	S. Nishida <i>et al.</i>	(BELLE Collab.)
ABE	01H	PRL 87 101801	K. Abe <i>et al.</i>	(BELLE Collab.)
ABE	01I	PRL 87 111801	K. Abe <i>et al.</i>	(BELLE Collab.)
ABE	01K	PR D64 071101	K. Abe <i>et al.</i>	(BELLE Collab.)
ABE	01L	PRL 87 161601	K. Abe <i>et al.</i>	(BELLE Collab.)
ABE	01M	PL B517 309	K. Abe <i>et al.</i>	(BELLE Collab.)
ALEXANDER	01B	PR D64 092001	J.P. Alexander <i>et al.</i>	(CLEO Collab.)
AMMAR	01B	PRL 87 271801	R. Ammar <i>et al.</i>	(CLEO Collab.)
ANDERSON	01B	PRL 87 181803	S. Anderson <i>et al.</i>	(CLEO Collab.)
AUBERT	01D	PRL 87 151801	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	01E	PRL 87 151802	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	01F	PRL 87 201803	B. Aubert <i>et al.</i>	(BaBar Collab.)
AUBERT	01G	PRL 87 221802	B. Aubert <i>et al.</i>	(BaBar Collab.)
BARATE	01E	EPJ C19 213	R. Barate <i>et al.</i>	(ALEPH Collab.)
BRIERE	01	PRL 86 3718	R.A. Biere <i>et al.</i>	(CLEO Collab.)
BROWDER	01	PRL 86 2950	T.E. Browder <i>et al.</i>	(CLEO Collab.)
EDWARDS	01	PRL 86 30	K.W. Edwards <i>et al.</i>	(CLEO Collab.)
GRITSAN	01	PR D64 077501	A. Gritsan <i>et al.</i>	(CLEO Collab.)
RICHICHI	01	PR D63 031103R	S.J. Richichi <i>et al.</i>	(CLEO Collab.)
ABBIENDI	00B	PL B476 233	G. Abbiendi <i>et al.</i>	(OPAL Collab.)
ABE	00C	PR D62 071101R	K. Abe <i>et al.</i>	(SLD Collab.)
AHMED	00B	PR D62 112003	S. Ahmed <i>et al.</i>	(CLEO Collab.)
ANASTASSOV	00	PRL 84 1393	A. Anastassov <i>et al.</i>	(CLEO Collab.)
BARATE	00R	PL B492 275	R. Barate <i>et al.</i>	(ALEPH Collab.)
BEHRENS	00	PR D61 052001	B.H. Behrens <i>et al.</i>	(CLEO Collab.)
BONVICINI	00	PRL 84 5940	G. Bonvicini <i>et al.</i>	(CLEO Collab.)
CHEN	00	PRL 85 525	S. Chen <i>et al.</i>	(CLEO Collab.)
COAN	00	PRL 84 5283	T.E. Coan <i>et al.</i>	(CLEO Collab.)
CRONIN-HEN... CSORNA	00	PRL 85 515 PRL D61 111101	D. Cronin-Hennessy <i>et al.</i> S.E. Csorna <i>et al.</i>	(CLEO Collab.)
JESSOP	00	PRL 85 2881	C.P. Jessop <i>et al.</i>	(CLEO Collab.)
RICHICHI	00	PRL 85 520	S.J. Richichi <i>et al.</i>	(CLEO Collab.)
ABBIENDI	99J	EPJ C12 609	G. Abbiendi <i>et al.</i>	(OPAL Collab.)
AFFOLDER	99B	PRL 83 3378	T. Affolder <i>et al.</i>	(CDF Collab.)
BARTELT	99	PRL 82 3746	J. Bartelt <i>et al.</i>	(CLEO Collab.)
COAN	99	PR D59 111101	T.E. Coan <i>et al.</i>	(CLEO Collab.)
ABE	98B	PR D57 5382	F. Abe <i>et al.</i>	(CDF Collab.)
ABE	98O	PR D58 072001	F. Abe <i>et al.</i>	(CDF Collab.)
ABE	98Q	PR D58 092002	F. Abe <i>et al.</i>	(CDF Collab.)
ACCIARRI	98S	PL B438 417	M. Acciari <i>et al.</i>	(L3 Collab.)
ANASTASSOV	98	PRL 80 4127	A. Anastassov <i>et al.</i>	(CLEO Collab.)
ATHANAS	98	PRL 80 5493	M. Athanas <i>et al.</i>	(CLEO Collab.)
BARATE	98Q	EPJ C4 387	R. Barate <i>et al.</i>	(ALEPH Collab.)
BEHRENS	98	PRL 80 3710	B.H. Behrens <i>et al.</i>	(CLEO Collab.)
BERGFELD	98	PRL 81 272	T. Bergfeld <i>et al.</i>	(CLEO Collab.)
BRANDENB...	98	PRL 80 2762	G. Brandenbrug <i>et al.</i>	(CLEO Collab.)
GODANG	98	PRL 80 3456	R. Godang <i>et al.</i>	(CLEO Collab.)
ABE	97J	PRL 79 590	K. Abe <i>et al.</i>	(SLD Collab.)
ACCIARRI	97F	PL B396 327	M. Acciari <i>et al.</i>	(L3 Collab.)
ARTUSO	97	PL B399 321	M. Artuso <i>et al.</i>	(CLEO Collab.)
ATHANAS	97	PRL 79 2208	M. Athanas <i>et al.</i>	(CLEO Collab.)
BROWDER	97	PR D56 11	T. Browder <i>et al.</i>	(CLEO Collab.)
FU	97	PRL 79 3125	X. Fu <i>et al.</i>	(CLEO Collab.)
JESSOP	97	PRL 79 4533	C.P. Jessop <i>et al.</i>	(CLEO Collab.)
ABE	96B	PR D53 3496	F. Abe <i>et al.</i>	(CDF Collab.)
ABE	96C	PRL 76 4462	F. Abe <i>et al.</i>	(CDF Collab.)
ABE	96H	PRL 76 2015	F. Abe <i>et al.</i>	(CDF Collab.)
ABE	96L	PRL 76 4675	F. Abe <i>et al.</i>	(CDF Collab.)

ABE	96Q	PR D54 6596	F. Abe <i>et al.</i>	(CDF Collab.)
ABE	96R	PRL 77 5176	F. Abe <i>et al.</i>	(CDF Collab.)
ADAM	96D	ZPHY C72 207	W. Adam <i>et al.</i>	(DELPHI Collab.)
ALEXANDER	96T	PRL 77 5000	J.P. Alexander <i>et al.</i>	(CLEO Collab.)
ASNER	96	PR D53 1039	D.M. Asner <i>et al.</i>	(CLEO Collab.)
BARISH	96B	PRL 76 1570	B.C. Barish <i>et al.</i>	(CLEO Collab.)
BERGFELD	96B	PRL 77 4503	T. Bergfeld <i>et al.</i>	(CLEO Collab.)
BISHAI	96	PL B369 186	M. Bishai <i>et al.</i>	(CLEO Collab.)
BUSKULIC	96J	ZPHY C71 31	D. Buskulic <i>et al.</i>	(ALEPH Collab.)
GIBAUT	96	PR D53 4734	D. Gibaut <i>et al.</i>	(CLEO Collab.)
PDG	96	PR D54 1	R. M. Barnett <i>et al.</i>	
ABREU	95N	PL B357 255	P. Abreu <i>et al.</i>	(DELPHI Collab.)
ABREU	95Q	ZPHY C68 13	P. Abreu <i>et al.</i>	(DELPHI Collab.)
ADAM	95	ZPHY C68 363	W. Adam <i>et al.</i>	(DELPHI Collab.)
AKERS	95T	ZPHY C67 379	R. Akers <i>et al.</i>	(OPAL Collab.)
ALBRECHT	95D	PL B353 554	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ALEXANDER	95	PL B341 435	J. Alexander <i>et al.</i>	(CLEO Collab.)
Also		PL B347 469 (erratum)	J. Alexander <i>et al.</i>	(CLEO Collab.)
ARTUSO	95	PRL 75 785	M. Artuso <i>et al.</i>	(CLEO Collab.)
BARISH	95	PR D51 1014	B.C. Barish <i>et al.</i>	(CLEO Collab.)
BUSKULIC	95	PL B343 444	D. Buskulic <i>et al.</i>	(ALEPH Collab.)
ABE	94D	PRL 72 3456	F. Abe <i>et al.</i>	(CDF Collab.)
ALAM	94	PR D50 43	M.S. Alam <i>et al.</i>	(CLEO Collab.)
ALBRECHT	94D	PL B335 526	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ATHANAS	94	PRL 73 3503	M. Athanas <i>et al.</i>	(CLEO Collab.)
Also		PRL 74 3090 (erratum)	M. Athanas <i>et al.</i>	(CLEO Collab.)
PDG	94	PR D50 1173	L. Montanet <i>et al.</i>	(CERN, LBL, BOST+)
STONE	94	HEPSY 93-11	S. Stone	
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ABREU	93D	ZPHY C57 181	P. Abreu <i>et al.</i>	(DELPHI Collab.)
ABREU	93G	PL B312 253	P. Abreu <i>et al.</i>	(DELPHI Collab.)
ACTON	93C	PL B307 247	P.D. Acton <i>et al.</i>	(OPAL Collab.)
ALBRECHT	93E	ZPHY C60 11	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ALEXANDER	93B	PL B319 365	J. Alexander <i>et al.</i>	(CLEO Collab.)
AMMAR	93	PRL 71 674	R. Ammar <i>et al.</i>	(CLEO Collab.)
BEAN	93B	PRL 70 2681	A. Bean <i>et al.</i>	(CLEO Collab.)
BUSKULIC	93D	PL B307 194	D. Buskulic <i>et al.</i>	(ALEPH Collab.)
Also		PL B325 537 (erratum)	D. Buskulic <i>et al.</i>	(ALEPH Collab.)
SANGHERA	93	PR D47 791	S. Sanghera <i>et al.</i>	(CLEO Collab.)
ALBRECHT	92C	PL B275 195	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ALBRECHT	92E	PL B277 209	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ALBRECHT	92G	ZPHY C54 1	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
BORTOLETTO	92	PR D45 21	D. Bortoletto <i>et al.</i>	(CLEO Collab.)
BUSKULIC	92G	PL B295 396	D. Buskulic <i>et al.</i>	(ALEPH Collab.)
ALBRECHT	91B	PL B254 288	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ALBRECHT	91C	PL B255 297	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ALBRECHT	91E	PL B262 148	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
BERKELMAN	91	ARNPS 41 1	K. Berkelman, S. Stone	(CORN, SYRA)
"Decays of <i>B</i> Mesons"				
FULTON	91	PR D43 651	R. Fulton <i>et al.</i>	(CLEO Collab.)
ALBRECHT	90B	PL B241 278	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ALBRECHT	90J	ZPHY C48 543	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ANTREASYAN	90B	ZPHY C48 553	D. Antreasyan <i>et al.</i>	(Crystal Ball Collab.)
BORTOLETTO	90	PRL 64 2117	D. Bortoletto <i>et al.</i>	(CLEO Collab.)
Also		PR D45 21	D. Bortoletto <i>et al.</i>	(CLEO Collab.)
WEIR	90B	PR D41 1384	A.J. Weir <i>et al.</i>	(Mark II Collab.)
ALBRECHT	89G	PL B229 304	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
AVERY	89B	PL B223 470	P. Avery <i>et al.</i>	(CLEO Collab.)
BEBEK	89	PRL 62 8	C. Bebek <i>et al.</i>	(CLEO Collab.)
BORTOLETTO	89	PRL 62 2436	D. Bortoletto <i>et al.</i>	(CLEO Collab.)
ALBRECHT	88F	PL B209 119	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ALBRECHT	88K	PL B215 424	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ALBRECHT	87C	PL B185 218	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ALBRECHT	87D	PL B199 451	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
AVERY	87	PL B183 429	P. Avery <i>et al.</i>	(CLEO Collab.)
BEBEK	87	PR D36 1289	C. Bebek <i>et al.</i>	(CLEO Collab.)
ALAM	86	PR D34 3279	M.S. Alam <i>et al.</i>	(CLEO Collab.)
PDG	86	PL 170B 1	M. Aguilar-Benitez <i>et al.</i>	(CERN, CIT+)
GILES	84	PR D30 2279	R. Giles <i>et al.</i>	(CLEO Collab.)